BEFORE THE HEARINGS COMMISSIONERS
APPOINTED BY THE CENTRAL OTAGO DISTRICT COUNCIL

UNDER	the Resource Management Act 1991
IN THE MATTER	of a submission on a Plan Change under clause 6 of Schedule 1 of the Act
BY	**ONE FIVE FIVE DEVELOPMENTS LP**
	Submitter

STATEMENT OF EVIDENCE OF ANDY CARR

Dated: 16 May 2023

TODD & WALKER law
LAWYERS | NOTARY PUBLIC

Solicitor acting
G M Todd / B B Gresson
PO Box 124 Queenstown 9348
P: 03 441 2743
graeme@toddandwalker.com
ben@toddandwalker.com

Statement of evidence of Andy Carr

Introduction

[1] My name is Andrew 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 (formerly the Institution of Professional Engineers New Zealand), and an Associate Member of the New Zealand Planning Institute.

[4] I have more than 33 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 have previously been a Hearings Commissioner and 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.

Code of Conduct for Expert Witnesses

[7] I confirm I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and that I have complied with it when preparing my evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope of Evidence

[8] I have been instructed by One Five Five Developments LP to give expert traffic advice in respect of its submission on Plan Change 19 by the Central Otago District Council with regard to its site (**the site**) at 113-157 Dunstan Road, and part of 129 Gilligans Gully Road.

[9] I was not involved in the submission, and so I have firstly evaluated the transportation-related effects of the development that would be enabled by the rezoning sought through the submission. The first part of my evidence summarises my findings. The second part of my evidence discusses the s 42A report of Ms White, consultant planner to the Council.

[10] I visited the site during March 2023, but have travelled along Dunstan Road on a number of occasions as part of my involvement with other projects in the general vicinity and also in respect of personal business.

Executive Summary

[11] I have assessed the transportation related effects associated with the development of the site (if rezoned) and set these out in a Transportation Assessment.

[12] My analysis is based on the rezoned site being developed for 120 residences. I found that the traffic generated from these could be easily accommodated on the adjacent roading network without adverse effects on capacity or road safety, even if traffic flows on Dunstan Road were to be 50% higher than presently occur.

[13] I consider that the site is well-connected to Alexandra by non-car modes of travel, with leisure facilities and schools within walking distance, and Alexandra town centre, two supermarkets and employment opportunities within a viable cycling distance.

[14] The formed width of Dunstan Road does not currently meet Council's Code of Practice and this remains the case if the site was to be rezoned and developed. However, there are no impediments to future widening if required and the matter is better assessed when future subdivision consents are sought for the site.

[15] It would be possible to provide formal pedestrian and cyclist crossings on Dunstan Road if desired. There are also no impediments to achieving an access intersection to serve the site that fully complies with current standards and guides.

[16] Although no layout is currently proposed for the site, it is highly likely in my view that it would be possible to devise a layout that complies with all relevant transportation-related provisions.

[17] I have reviewed the s 42A report of Ms White, but note that she does not address transportation matters at the submitter's site.

[18] Overall, I am able to support the rezoning request from a traffic and transportation perspective.

Summary of Transportation Assessment

[19] My Transportation Assessment is attached as **Annexure A** to this evidence.

[20] In summary, my analysis has relied on a yield study provided to me which indicates that 117 residential properties could be developed if the site was rezoned. However, I have allowed a small margin of error and assessed 120 residences.

[21] I found that the vehicles generated by these residences could easily be accommodated on the adjacent roading network without adverse effects on capacity or road safety.

[22] I then carried out a sensitivity test, to allow for growth in traffic on Dunstan Road in future, and increased the peak hour volumes passing the site by 50%. My revised analysis continued to show that the traffic generated by full development of the rezoned site could easily be accommodated on the road network.

[23] I consider that the site is well-connected to Alexandra by non-car modes of travel. It is typically accepted that people will walk a maximum of 1km to reach a particular destination, and within this distance are Molyneux Park, the swimming pool and ice rink, Dunstan High School and The Terrace primary school.

[24] A distance of 3km is typically accepted as being the maximum that people will cycle to a destination, and within this distance are Alexandra town centre, and two supermarkets. The Rail Trail provides a high-quality and largely off-road connection to a number of employment opportunities towards the south (for instance at Ngapara Street) which are also within 3km of the site.

[25] The formed width of Dunstan Road presently does not meet Council's Code of Practice, where a 6.4m seal is provided and a 7.0m seal is specified. This is an existing deficiency on the road, and the requested rezoning does not materially change this situation. In my view, since Dunstan Road has a wide legal corridor and is flat and straight, there are no impediments to future widening, and this matter can be assessed when subdivision consents are sought for the site (if rezoned).

[26] There are also no impediments to achieving an access intersection to the site that fully complies with current standards and guides. It would also be possible to introduce measures for pedestrians and cyclists to cross the road. Again though, in my view these are matters more appropriate considered in detail at subdivision.

[27] Although no layout is currently proposed for the site, I reviewed the likelihood that transportation-related non-compliances with the District Plan would result from subdivision of the site. In my view, it would be possible to devise a site layout that was able to comply with all relevant transportation-related provisions.

[28] In the Transportation Assessment I therefore concluded that the rezoning request could be supported from a traffic and transportation perspective. I remain of this opinion.

Officers' Reports

[29] I have reviewed the s 42A report of Ms White. I note that when considering the site she does not mention transportation matters and I am therefore unable to identify the Council's views on traffic and transport issues associated with the site.

Conclusion

[30] On the basis of my assessment of traffic and transportation matters, I consider that there are no reasons why the site could not be rezoned as sought in the submission.

Andrew David Carr
15 May 2023

Annexure A

One Five Five Developments LP

Proposed Rezoning
155 Dunstan Road, Alexandra

Transportation Assessment

CARRIAGEWAY
CONSULTING
traffic engineering | transport planning

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1. Introduction

1.1. One Five Five Developments LP has made a submission to the Central Otago District Council's Plan Change 19 (**PC19**) regarding its site at 155 Dunstan Road, Alexandra (**the site**). The site lies within the area identified within PC19, and the submissions seeks to change the zoning from Large Lot Residential as currently proposed, to either Low Density Residential or Large Lot Residential (P1). Adjacent parcels of land, one of which is outside of the area covered by PC19, are also requested to be rezoned.

1.2. This Transportation Assessment sets out a detailed analysis of the transportation issues associated with the proposed rezoning request including changes in travel patterns that are likely to arise from subsequent development of the rezoned site. Where potential adverse effects are identified, ways in which these can be addressed are set out.

1.3. This report is cognisant of the guidance specified in the New Zealand Transport Agency's '*Integrated Transport Assessment Guidelines'* and although travel by private motor vehicle is addressed within this report, in accordance with best practice the importance of other transport modes is also recognised. Consequently, travel by walking, cycling and public transport is also considered.

2. Site Overview

2.1. Location

2.1.1. The site is located around 450m southeast of the Dunstan Road / Hillview Road intersection and 1km northwest of the Dunstan Road / Arnott Road intersection, on the northern side of Alexandra. The site has frontage onto only Dunstan Road. It is currently zoned as Rural Resource Area in the Central Otago District Plan ('*District Plan*') and is currently used for rural activities.

2.1.2. The location of the site in the context of the local area is shown in Figure 1 and in more detail in Figure 2.

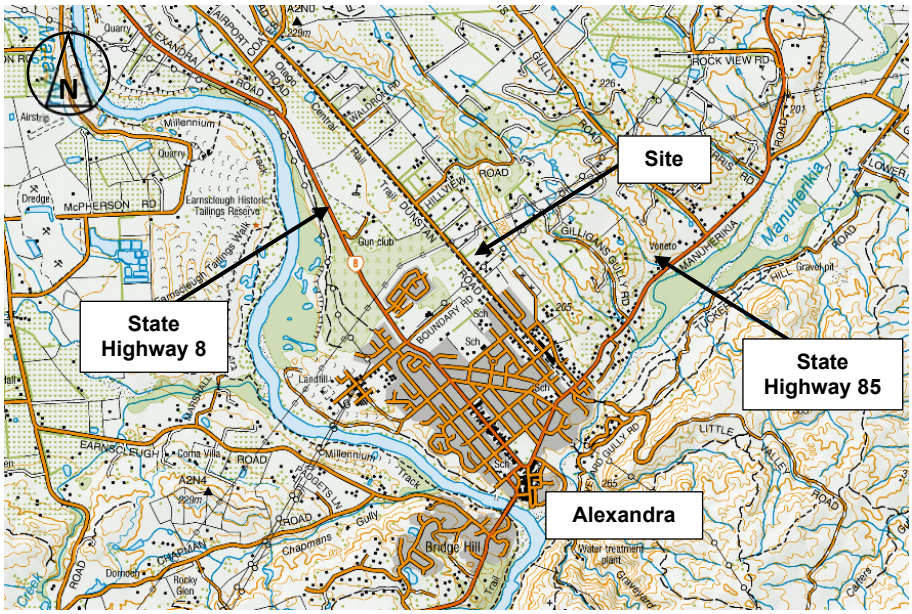

Figure 1: General Location of Site

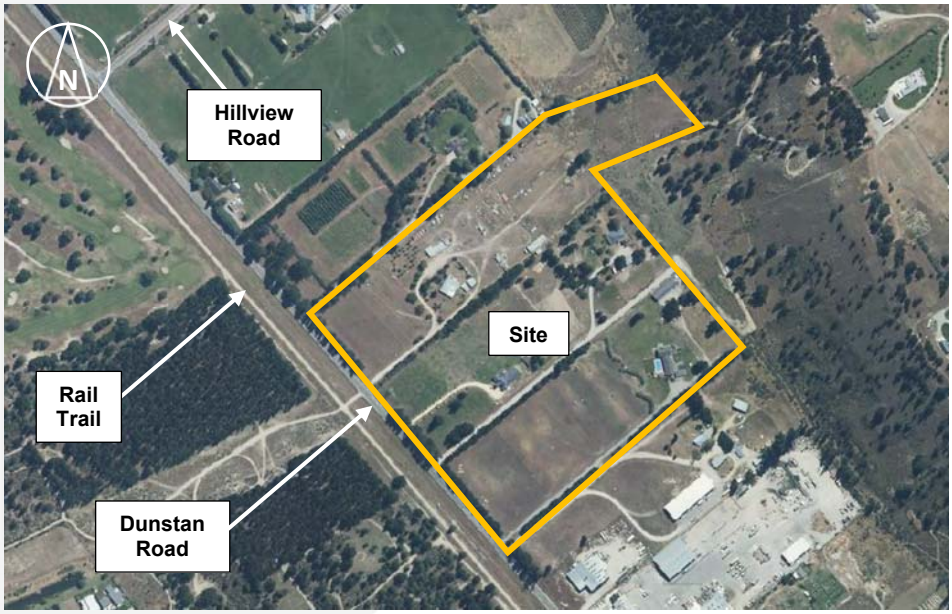

Figure 2: Aerial Photograph of Site and Environs

2.2. Roading Classification

2.2.1. The District Plan classifies Dunstan Road as a Rural Arterial Road. On this basis, it is reasonable to conclude that the primary role of the road is to carry through traffic, with direct property access being limited.

2.2.2. Hillview Road is a Local Road, meaning it provides for local journeys and property access.

3. Current Transportation Networks

3.1. Roading Network

3.1.1. In the vicinity of the site, Dunstan Road is characterised by having a straight and flat carriageway. The traffic lanes are each 3.2m wide and the road has a 0.3m wide sealed shoulder. The carriageway is marked with a centreline, edge lines and has marker posts on each side. There are swales on each side, with an approximate 7m wide verge. The legal width of Dunstan Road is in the order of 20m, and the speed limit over much of the site road frontage is 80km/h. However the urban (50km/h) speed limit zone of Alexandra commences at the southern boundary of the site.

Photograph 1: Dunstan Road Looking South

3.1.2. The lots that are the subject of the request each have access legs onto Dunstan Road, and these are formed as residential driveways. The presence of the driveway enables an assessment to be easily made of the sight distances available in each direction.

Photograph 2: Existing Driveway Serving Site


Photographs 3 and 4: Sight Distances along Dunstan Road to Left and Right

3.1.3. The photographs show that sight distances in each direction are excellent, due to the flat and straight alignment of Dunstan Road.

3.2. Non-Car Infrastructure

3.2.1. The Central Otago Rail Trail lies to the immediate west of Dunstan Road and is separated from it by a landscaping strip of around 25m. The Rail Trail itself is around 4m wide and is gravelled.

Photograph 5: Rail Trail Adjacent to Site (Dunstan Road on Left)

3.2.2. Other than the landscaping strip, there are no impediments to gaining access to the Rail Trail from Dunstan Road (and vice versa) and accordingly there is a network of informal routes through the landscaping.

Photograph 6: Informal Access Opposite Site Serving Rail Trail and Route Alongside Plantation

3.2.3. There is no specific provision for walking or cycling on Dunstan Road (although the need for any cycling route is minimal due to the Rail Trail). The wide verge provides opportunities for walking trips.

3.2.4. There is no public transport in the area.

3.3. Future Changes

3.3.1. There are no known changes to the roading environment in the immediate area that are set out in any overarching strategies or guides. However as noted above, the land is proposed to be rezoned, which will potentially change traffic flows as discussed further subsequently in this report.

4. Current Transportation Patterns

4.1. Traffic Flows

4.1.1. According to the MobileRoad website, Dunstan Road carries 1,900 vehicles per day (two-way). A road typically carries around 10% of its daily traffic flows in the peak hours, which suggests that the peak hour traffic flows on Dunstan Road are around 190 vehicles per hour (two-way).

4.1.2. The Austroads Guide to Traffic Management Part 3 ('*Traffic Studies and Analysis*') sets out thresholds regarding the need for detailed traffic analyses at intersections, and the traffic flows below which detailed analyses of unsignalised intersections are unnecessary since the intersection operates under 'free-flow' conditions. An extract from this is replicated below.

Major Road Type	Traffic Volumes (Vehicles Per Hour)	
	Major Road	Minor Road
Two lane road	400	250
	500	200
	600	100

Table 1: Extract from Table 6.1 of Austroads Guide to Traffic Management Part 3 (Intersection Volumes below which Capacity Analysis is Unnecessary)

4.1.3. It can be seen that the volume on Dunstan Road falls well below the smallest thresholds for the major road, and accordingly, no analysis has been carried out. In essence, at present the Dunstan Road / Site Access[1] intersection will operate under 'free-flow' conditions.

4.1.4. The Austroads Guide to Traffic Management Part 3 ('Traffic Studies and Analysis') sets out a process by which the level of service of a road can be calculated. This shows that under the current traffic flows, Dunstan Road provides Level of Service A, the best available.

4.2. Non-Car Modes of Travel

4.2.1. Given that the area is predominantly rural, it can reasonably be expected that it will be relatively lightly used by pedestrians and cyclists. It is considered that the absence of infrastructure for these road users is therefore not unreasonable.

4.2.2. The exception to this is the Rail Trail, with conservative estimates of 15,000 users per year and up to 3,000 users per month[2] (March and April are the most popular months with little use during June, July and August). It can be expected that Covid-19 related travel restrictions have recently diminished the volume, but it can also be reasonably expected that volumes will return to more typical levels with restrictions removed.

4.2.3. There are no regular bus services that pass the site. Although several longer-distance services pass nearby on State Highway 8, there are no bus stops provided within walking distance.

[1] Presently formed as a private driveway as noted previously

[2] https://www.codc.govt.nz/repository/libraries/id:2apsqkk8g1cxbyoqohn0/hierarchy/sitecollectiondocuments/reports/other-reports/Otago%20Central%20Rail%20Trail%20User%20Survey%20Analysis%202014-15.pdf

4.3. Road Safety

4.3.1. The NZTA Crash Analysis System has been used to establish the location and nature of the recorded traffic crashes in the vicinity of the site. All reported crashes between 2016 and 2022 were identified[3], plus the partial record for 2023, for Dunstan Road for 500m to the north and south of the site.

4.3.2. This showed that there have been four crashes recorded:

- around 550m north of the site, one crash occurred when a northbound truck driver overtook a car in front that was moving slowly, but the car then turning right, across the path of the truck. The crash resulted in minor injuries;
- adjacent to the site, one crash occurred when a driver fleeing from police lost control and left the road. The crash did not result in any injuries;
- around 800m south of the site, a driver turning into Arnott Street lost control and left the road. The crash did not result in any injuries;
- around 950m south of the site, one crash occurred when an intoxicated driver lost control and left the road. The crash did not result in any injuries.

4.3.3. The historic pattern of crashes does not indicate any particular safety-related deficiencies on this part of the roading network.

[3] A five-year period has been used due to the traffic volumes on Dunstan Road being more than 1,000 vehicles per day, and a further 2 years have been added to allow for reduced traffic flows due to restrictions on movements and tourism due to Covid-19.

5. Proposal

5.1. It is understood that as part of PC19, Central Otago District Council wishes to rezone the blocks of land fronting Dunstan Road as Large Lot Residential. The easternmost portion of the site (without frontage onto Dunstan Road) lies outside the geographic area of PC19, and is rezoned Rural.

5.2. The submission seeks to rezone the entirety of the site as either Low Density Residential or Large Lot Residential (P1).

5.3. Since the proposal is for a rezoning, there is no confirmed scheme plan for development of the area. However, given the location of the site, it can be concluded that access onto the roading network will be gained onto Dunstan Road, as there are no roading links available to other parts of the roading network.

5.4. A yield study shows that up to 117 lots could be achieved if the rezoning request was approved.

6. Traffic Generation and Distribution

6.1. Traffic Generation

6.1.1. Traffic generated by residential developments is known to vary for a variety of reasons, with one such reason being the proximity (or otherwise) to employment and community facilities. Where a dwelling is some distance from these types of facilities, the traffic generation rates tend to be lower than for residences that are closer due to 'trip chaining', that is, the tendency of a resident to carry out multiple visits to different destinations during the same trip away from the dwelling.

6.1.2. In this case, it is likely that traffic will be associated with employment locations in Alexandra or further afield in Cromwell, and there is also likely to be travel to schools in Alexandra. As Alexandra is only around 1.5km away, for this analysis a rate of 8 vehicle movements per day per residence has been used, with 1 vehicle movement per residence occurring in each of the peak hours.

6.1.3. Under the requested zoning for Low Density Residential, a minimum lot size of 500sqm is permitted, and a yield study shows that up to 117 lots could be provided. To allow for minor variations in this, this assessment has been based on 120 lots.

6.1.4. In the morning peak hour, 85% of these vehicles are likely to be exiting the site, with 65% of the generated vehicle movements entering the site in the evening peak hour.

6.2. Trip Distribution

6.2.1. With regard to the distribution of these vehicles, it is anticipated that the vast majority will be associated with travel to/from Alexandra and therefore for the purposes of this analysis, an allowance has been made for 90% of vehicles to travel to/from the south.

6.2.2. The traffic generation of the site when fully developed under the requested zoning is therefore as follows:

Scenario	Traffic Volumes							
	Morning Peak Hour				Evening Peak Hour			
	In from south	In from north	Out to South	Out to North	In from south	In from north	Out to South	Out to North
Submitter Requested Zoning	16	2	92	10	70	8	38	4

Table 2: Traffic Generation of Site Under Requested Zoning

7. Effects on the Transportation Networks

7.1. Roading Capacity

7.1.1. Based on the traffic flows above, the increases due to development of the site will be:

- Daily Traffic Volumes:
  - Dunstan Road (south of site) prior to rezoning: 1,900 vehicles (two-way)
  - Dunstan Road (south of site) after rezoning: 2,764 vehicles (two-way)
  - Dunstan Road (north of site) prior to rezoning: 1,900 vehicles (two-way)
  - Dunstan Road (north of site) after rezoning: 1,996 vehicles (two-way)
- Peak Hour Traffic Volumes:
  - Dunstan Road (south of site) prior to rezoning: 190 vehicles (two-way)
  - Dunstan Road (south of site) after rezoning: 298 vehicles (two-way)
  - Dunstan Road (north of site) prior to rezoning: 190 vehicles (two-way)
  - Dunstan Road (north of site) after rezoning: 203 vehicles (two-way)

7.1.2. These volumes are still well within the capacity of the roads. The heaviest hourly flow of 298 vehicles per hour equates to an average of just one vehicle movement every 12 seconds.

7.1.3. Although the layout of the site is not confirmed, an assessment has been undertaken allowing for the whole site to be served by just one point of access. This represents the worst-case scenario, as if there were additional points of access then traffic flows passing through each would be lower and accordingly, the queues and delays at each would be lessened. For this assessment the computer software package Sidra Intersection has been used, and the intersection is assumed to be a priority intersection with auxiliary right-turn lane (as can easily be accommodated within the legal road reserve). The results are summarised below.

Road and Movement		Morning Peak Hour			Evening Peak Hour		
		Avg Delay (secs)	95 %ile Queue (veh)	Level of Service	Avg Delay (secs)	95 %ile Queue (veh)	Level of Service
Dunstan Road (south)	R	7.2	0.0	A	7.1	0.2	A
Site Access	L	4.9	0.3	A	4.8	0.1	A
	R	5.8	0.3	A	6.1	0.1	A
Dunstan Road (north)	L	7.2	0.0	A	7.2	0.0	A

Table 3: Peak Hour Levels of Service at the Dunstan Road / Site Access Intersection, with Site Fully Developed

7.1.4. It can be seen that queues and delays are extremely low, and the level of service provided (A) is the best available. In essence, the access intersection would operate under free-flow conditions.

7.1.5. No data is available regarding the traffic growth on Dunstan Road. However a sensitivity test has been undertaken of increasing the prevailing traffic flows by 50% (this is a highly robust assessment, as it means that the annual growth in traffic would be 5% for the next ten years). The intersection has been re-modelled, and the result are summarised below.

Road and Movement		Morning Peak Hour			Evening Peak Hour		
		Avg Delay (secs)	95 %ile Queue (veh)	Level of Service	Avg Delay (secs)	95 %ile Queue (veh)	Level of Service
Dunstan Road (south)	R	7.3	0.0	A	7.2	0.2	A
Site Access	L	5.1	0.3	A	4.9	0.1	A
	R	6.6	0.3	A	6.9	0.1	A
Dunstan Road (north)	L	7.2	0.0	A	7.2	0.0	A

Table 4: Peak Hour Levels of Service at the Dunstan Road / Site Access Intersection, with Site Fully Developed and Dunstan Road Volumes Increased by 50%

7.1.6. It can be seen that queues and delays remain extremely low, and the level of service is unaltered and remains at A (the best available). The access intersection therefore continues to operate under free-flow conditions.

7.1.7. Overall then, the traffic generated by full development of the rezoned site can easily be accommodated on the road network.

7.2. Non-Car Modes of Travel

7.2.1. The development of the site may result in increased levels of walking and cycling in the immediate area. However, these will only be moderate because of the scale of development.

7.2.2. It is typically accepted that people will walk a maximum of 1km to reach a particular destination, and will cycle a maximum distance of 3km. In this regard, there are a number of important destinations within 1km, including Molyneux Park (almost opposite the site) and by using the off-road route opposite the site, the swimming pool and ice rink are only 850m away. Dunstan High School is 950m from the site, with The Terrace primary school being 800m away. These destinations are able to be reached using off-road routes, including the Rail Trail.

7.2.3. A distance of 3km is accepted as being the maximum that people will cycle to a destination. Alexandra town centre, and two supermarkets are 1.9km from the site. The Rail Trail provides a high-quality and largely off-road connection to a number of employment opportunities towards the south (for instance at Ngapara Street) which are within 1.5km of the site.

7.2.4. Accordingly, it is considered that the site is well-located for accessibility to key destinations without the need to use a private car.

7.2.5. The size of the subdivision is not sufficient that it will give rise to the need for a public transport service.

7.3. Road Safety

7.3.1. Based on a review of the road safety records, the proposal is unlikely to result in adverse road safety effects arising as a result of the increase in traffic flows on the road network.

7.3.2. Although the site access location has not been confirmed, the flat and straight alignment of Dunstan Road means that sight distances towards the north and south well in access of 300m are available, which exceeds the minimums required for the prevailing speed limits.

7.4. Dunstan Road Cross-Section

7.4.1. Development of the site will increase traffic flows on Dunstan Road. As noted above, the traffic lanes are a total of 6.4m wide and the shoulders are 0.3m wide. The Council's Engineering Code of Practice does not specify a width for a Rural Arterial Road as it only goes as far as a Collector Road. However since it also states that roads with an AADT of more than 2,500 vehicles per day requires a specific design, this implies that roads of less than 2,500 vehicles per day do not require specific design and therefore that the Code of Practice can be used.

7.4.2. The highest specification of road is shown with a 7.0m carriageway width and 0.25m wide shoulders. The existing formation of Dunstan Road is therefore of a lesser standard than required under the Code of Practice.

7.4.3. In this instance, the anticipated traffic flow slightly exceeds the threshold of the Code of Practice (2,764 vehicles per day and 2,500 vehicles per day respectively). Given that the difference is small, this suggests that the same cross-section of road is required after development of the site, of a 7.0m carriageway and a 0.25m shoulder.

7.4.4. In view of the road reserve width available and the favourable topography, this widening can easily be accomplished. However it is considered that the need for this widening should be assessed and confirmed when land use and/or subdivision consents are sought, since in practice, the increase in traffic associated with development of the site can be easily accommodated by the existing road formation.

7.4.5. There are no impediments to achieving a suitable formation for the roadway(s) within the site.

7.5. Site Access

7.5.1. The proposal will create a priority intersection on Dunstan Road. The width of the legal road means that there is no impediment to achieving an intersection layout that meets relevant guides and standards. Sight distances are excellent, as shown on Photographs 3 and 4 above.

7.5.2. As noted above, at the busiest time there could be up to 70 vehicles turning right into the site. Under the warrants set out in the Austroads Guide to Traffic Management Part 6 ('Intersections, Interchanges and Crossings'), and taking into account the through traffic on Dunstan Road, an auxiliary right-turn lane is warranted (and has been modelled in the intersection assessment above). This can easily be accommodated within the legal road reserve of Dunstan Road.

7.5.3. The traffic flows do not warrant an auxiliary left-turn lane at the access.

7.5.4. The proposal will also lead to an increase in crossing movements of Dunstan Road associated with cyclists, and potentially some pedestrians, accessing the Rail Trail. Sight distances between all road users are excellent but the speed limit on Dunstan Road means that in the event of any collision, it is likely that injuries will be serious. However as with any other new roading infrastructure, it can be expected that a road safety audit will be carried out of the detailed design, and this will include addressing matters relating to walking and cycling. The legal width of Dunstan Road is such that measures can be introduced to support crossing movements at that time, such as a formally marked crossing location or a pedestrian refuge.

7.5.5. The Council's Engineering Code of Practice adopts Standard NZS4404:2004, with the latter setting out that "*the separation between any two roads intersecting a road of local distributor*

class or high than this class shall be a minimum distance of 150m centreline to centreline" (paragraph 3.3.7). This separation can be achieved to the nearest intersection.

8. Statutory Framework

8.1. Introduction

8.1.1. At the outset, we note that the site is proposed to be rezoned by the council – the issue is the zoning and the development density that would be permitted. As a result, it is not considered that an assessment of alignment with overarching strategies is necessary, since the principle of using the land for a more intensive residential purpose appears to be common ground between the council and the submitter.

8.1.2. According, this assessment focusses on whether the transportation-related provisions of the District Plan can be achieved through a subdivision of the site.

8.2. Central Otago District Plan

8.2.1. The District Plan sets out a number of transportation-related rules with which any development is expected to comply. Although the proposal is for a rezoning, consideration of these rules is important at this stage in order to identify whether there are any likely impediments to a complying subdivision layout and which might affect the desirability of rezoning.

8.2.2. Consequently an assessment of the transportation rules has been undertaken and the results are summarised below

8.2.3. District Plan Part 12.7.1: Access Standards from Roads: Part (ii): Sight Distances

8.2.3.1. Under the District Plan, assuming that roads within the site are subject to a speed limit of 50km/h (being typical for a residential subdivision) then each lot requires a sight distance of 40m at its access. This can be achieved through careful site layout design.

8.2.4. District Plan Part 12.7.1: Access Standards from Roads: Part (iii): Access to Rural Arterial Roads

8.2.4.1. This part of the District Plan requires accesses to be constructed to particular layouts. However it is unlikely that there would be direct accesses onto Dunstan Road due to the likely presence of an internal network which provides a lower speed environment and thus reduces the potential road safety risk. Also under these provisions, as the speed limit on Dunstan Road is 80km/h, the remaining provisions (separation of accesses and road intersections) do not apply.

8.2.5. District Plan Part 12.7.2: Parking: Part (i): Number of Spaces

8.2.5.1. At this stage, no detailed layout has been produced for the individual lots. However their likely size means that each will be able to provide several car parking spaces, meeting Plan requirements.

8.2.6. District Plan Part 12.7.2: Parking: Part (ii): Parking in Excess of Three Spaces

8.2.6.1. It is not expected that any lots will provide more than three parking spaces.

8.2.7. District Plan Part 12.7.3: Loading and Manoeuvring: Part (i): Servicing Activities

8.2.7.1. The proposal is for residential activities and therefore the loading and unloading of goods is not expected to occur frequently.

8.3. Council's Engineering Code of Practice

8.3.1. The Council has a Code of Practice which sets out appropriate widths for the internal roads within the site. It is not considered that there are any reasons why these could not be met. If it is proposed to deviate from the Code of Practice, an application would need to be made and considered at the appropriate time.

8.4. Summary

8.4.1. It is considered that the site layout is likely to be able to comply with all the transportation requirements of the District Plan.

9. Conclusions

9.1. This report has identified, evaluated and assessed the various transport and access elements of a rezoning request for residential activities (facilitating up to 120 lots) at Alexandra.

9.2. Overall it is considered that the traffic generated by the development of the rezoned site can be accommodated on the adjacent roading network without capacity or efficiency issues arising. In practice, the traffic flows on Dunstan Road are very low at present, and development of the site generates comparatively little traffic, meaning that even if there was only one site access, this would operate under 'free flow' conditions, and Dunstan Road remains operating well within its maximum capacity.

9.3. The site is well-located when considering non-car travel, with key destinations (including schools, recreation, employment and retail) located within an easy walking or cycling distance.

9.4. The crash history in the vicinity of the site does not indicate that there would be any adverse safety effects from the proposal. Dunstan Road is flat and straight and therefore sight distances at the proposed site access will be excellent.

9.5. The internal roads within the site are likely to be able to comply with the Council's standards. Dunstan Road itself presently does not comply with the Council's Engineering Code of Practice, as the carriageway is 6.4m wide rather than the 7.0m width expected under the Code. However in practice the development of the site generates only a modest amount of traffic, and Dunstan Road is already lightly-trafficked, meaning that in practice the current carriageway width will function adequately.

9.6. Although the request is for a rezoning, it is likely that there will be a high degree of compliance with the transportation requirements of the District Plan and at this stage no non-compliances are expected.

9.7. Overall, and subject to the preceding comments, the rezoning request can be supported from a traffic and transportation perspective and it is considered that there are no traffic and transportation reasons why the request could not be approved.

Carriageway Consulting Limited
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traffic engineering | transport planning

A. PO Box 29623, Christchurch, 8540 **P.** 03 377 7010 **E.** office@carriageway.co.nz