

**BEFORE COMMISSIONERS APPOINTED BY
QUEENSTOWN LAKES DISTRICT COUNCIL**

IN THE MATTER of Resource Management Act 1991

AND

IN THE MATTER of a submission by Varina Proprietary
Limited

OS 591

EVIDENCE OF ANDREW DAVID CARR

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Introduction

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 am a member of the national committee of the Resource Management Law Association and a past Chair of the Canterbury branch of the organisation. I am also a Member of the Institution of Professional Engineers New Zealand, and an Associate Member of the New Zealand Planning Institute.
4. I have more than 27 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 carried out numerous commissions which have involved assessing the traffic and transportation effects of activities within town and city centre environments. Of particular relevance in this instance is that I was part of the team which redrafted the Christchurch District Plan objectives, policies and rules in the months following the 2011

earthquakes to ensure that development in the central city was supported without compromising the transportation networks, and this included assessing the appropriate parking provision. However my experience also extends to assessing resource consent applications for developments within and on the fringes of town and city centres. This includes visitor accommodation, medium and high density residential development, and food and beverage.

8. I have carried out transportation-related commissions for a variety of new developments in the Wanaka area for more than 12 years. This has included providing advice for proposed developments on Brownston Street and on McDougall Street.
9. As a result of my experience, I consider that I am fully familiar with the particular traffic-related issues associated with developments within land zonings of the type that are proposed.
10. Although this is a Council Hearing, I have read the Code of Conduct for Expert Witnesses in the Environment Court Consolidated Practice Note 2014. This evidence has been prepared in accordance with it and I agree to comply with it. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

Scope of Evidence

11. I have been asked by counsel for Varina Proprietary Limited to evaluate and assess the transportation aspects of its submission relating to the zoning of land in two locations:
 - a. The deletion of the Medium Density Residential Zone underlying the Wanaka Town Centre Transition Overlay Zone and replacement with an underlying Wanaka Town Centre Zone, on land bounded by Brownston Street and extending between Dungarvon Street and both sides of Russell Street (which I have referred to in this evidence as Submission Site 1 and shown as yellow hatched in Figure 1); and
 - b. The extension of the Medium Density Residential Zone and a Visitor Accommodation Sub-Zone on land bounded by Upton Street, McDougall Street and Brownston Street, and the Wanaka Camping Ground. This area is presently proposed to be zoned as Low Density

Residential. I have referred to this in this evidence as Submission Site 2 and it is shown as red hatched in Figure 1.

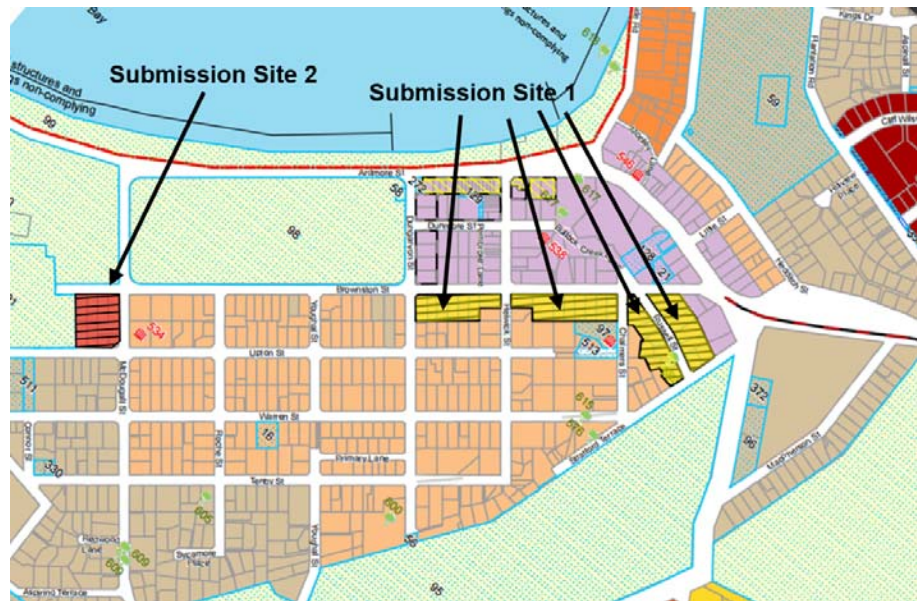


Figure 1: Location of Submission Sites 1 and 2

12. My evidence addresses the following matters:
 - a. A brief description of the prevailing and confirmed future transportation networks in the area;
 - b. A high-level assessment of the traffic likely to be generated by the development permitted within the zones under both the provisions sought by the submissions, and the currently-proposed zonings;
 - c. The effects of this traffic on the transportation networks; and
 - d. Relevant matters regarding non-car travel to the sites.
13. In preparing my evidence, I have read the proposed District Plan provisions for the Low and Medium Density Residential Zones, Wanaka Town Centre Zone and Town Centre Transition Overlay. I have also read the evidence of Mr Ian Greaves (consultant planner) and Ms Jill Corson (consultant urban designer) for the submitter.

Executive Summary

14. In respect of Submission Site 1, I consider that there are a number of policies under the proposed underlying Medium Density Residential Zone which mean that multiple small car parks and access points are

likely to be formed onto Brownston Street, with a consequential increase in traffic flows. In turn, in my view, this will compromise the safe and efficient functioning of the road. Conversely, with an underlying zoning of Wanaka Town Centre Zone, the matter of parking and vehicle accesses is better addressed as this enables parking to be provided elsewhere rather than on each individual site.

15. My analysis shows that the roading network around Submission Site 2 is able to accommodate a substantial increase in traffic flow of a magnitude that is far greater than would be generated by a rezoning to Medium Density Residential with a Visitor Accommodation overlay, as is proposed.
16. For these reasons, I am able to support the submission of Varina Proprietary Limited for the rezoning of both Submission Sites 1 and 2 as sought.

Prevailing Transportation Environment

Submission Site 1

17. Brownston Street is a Collector Road in the District Plan roading hierarchy, although I am aware that Council has signalled its intent for some time that this should be the arterial route through Wanaka rather than Ardmore Street, that is, Brownston Street, rather than Ardmore Street, should carry east-west through traffic.
18. Brownston Street has a straight horizontal alignment but falls slightly from east to west, and has a 50km/h speed limit. In the vicinity of Submission Site 1, the road has parallel parking over much of both sides of the road, and there is an intermittent flush median which transitions into auxiliary right-turn lanes at intersections to enable turning vehicles to wait clear of the through traffic lanes. There are numerous private accesses and driveways on either side of the road, including to the New World supermarket car park and Cinema Paradiso car park, and also a large public car park directly opposite Chalmers Street.
19. Brownston Street has priority intersections with Dungarvon Street to the western side of Submission Site 1, Helwick Street (180m east of Dungarvon Street), Chalmers Street (220m east of Helwick Street) and

Russell Street (30m east of Chalmers Street). In each location, traffic on Brownston Street retains the right-of-way.

20. Russell Street is a Local Road under the District Plan roading hierarchy. It has a straight alignment which rises towards the southeast, and a total carriageway width of 10m, with parallel parking permitted on the northern side of the road. On the southern side of the road parallel parking is permitted over the 80m closest to Brownston Street (subject to restrictions due to driveways) but further east, there is a series of 20 parking spaces provided at a 90-degree angle. This means that drivers need to reverse to/from the through traffic lanes of Russell Street when parking their vehicle.
21. Russell Street meets Brownston Street at a priority intersection where traffic on the latter has priority. Although there are no formal auxiliary lanes marked, there is a flush median on Brownston Street which can be used by vehicles turning right into Russell Street (this type of arrangement is permitted under the NZTA Manual of Traffic Signs and Markings where the volume of right-turning vehicles is low).
22. There are footpaths of at least 1.6m width provided on both sides of Brownston Street. There are also formal crossing points provided via pedestrian refuges (or islands) 20m east of Russell Street, 45m east of Helwick Street and 65m east of Dungarvon Street. This equates to one refuge being provided every 150m.
23. Although Dungarvon Street and Helwick Street have footpaths on both sides, Chalmers Street has a footpath only on the eastern side with Russell Street having a footpath only on the southern side.
24. Traffic flows on Brownston Street are in the order of 7,500 vehicles per day towards the western side of Submission Site 1 and 5,000 vehicles per day towards the eastern side. Russell Street carries around 1,000 vehicles per day.
25. Anticipating that each road carries around 10% of its daily traffic in each peak hour, this indicates that Brownston Street carries a maximum flow of 500 to 750 vehicles per hour (two-way) with Russell Street carrying 100 vehicles per hour (two-way).

26. There are no formal surveys of pedestrian volumes in the immediate area, but from my observations there are strong east-west and north-south movements on Brownston Street between Dungarvon Street and Russell Street associated with the existing activities fronting the road.
27. I have used the NZTA Crash Analysis System to identify all reported crashes on the sections of the roading network adjacent to Submission Site 1. This shows that between 2012 and 2017, a total of 17 accidents were recorded. Of these:
- a. Eight accidents occurred at the Brownston Street / Dungarvon Street intersection. The bulk of these were due to drivers on the minor approaches failing to give-way to traffic on Brownston Street;
 - b. Six accidents occurred at the Brownston Street / Helwick Street intersection. These were all due to drivers on the minor approaches failing to give-way to traffic on Brownston Street;
 - c. One accident occurred on Brownston Street just east of Dungarvon Street when an east-facing vehicle pulled out from a parking space and struck another parked vehicle;
 - d. One accident occurred on Helwick Street just south of Brownston Street when a north-facing vehicle pulled out from a parking space and struck another parked vehicle; and
 - e. One accident occurred on Russell Street when a driver did not apply their handbrake when parking, meaning that the car rolled backwards and into the car behind.
28. No accidents were recorded on Brownston Street between Helwick Street and Russell Street, and no accidents were recorded on any of the driveways on Brownston Street, or at the Brownston Street / Chalmers Street and Brownston Street / Russell Street intersections.
29. In my experience, the pattern of accidents is typical for an urban area with 'failure to give way'-type accidents at intersections being prevalent in such locations. As such, I do not consider that the current accident records indicate any inherent road safety deficiencies on the roading network.

Submission Site 2

30. McDougall Street is an Arterial Road under the District Plan, with a straight and generally flat alignment, although it rises descends slightly from south to north. It typically has two traffic lanes separated by a flush median but an unusual feature of the road is that it has indented parking bays at regular intervals. These are 2.5m wide, and vary in length.
31. Brownston Street meets McDougall Street at a priority ('stop') intersection where traffic on the latter retains the right of way. On the immediate approaches to the intersection, the flush median on McDougall Street transitions to provide auxiliary right turn lanes for traffic turning right and left into Brownston Street. There are raised islands on Brownston Street to assist pedestrian crossing movements.
32. Upton Street to the south of the site is also a Local Road in the roading hierarchy. It is flat and straight and provides two traffic lanes, but the carriageway is 6.5m wide and therefore narrower than Brownston Street. There are indented parking bays provided on both sides of the road, but there are several private driveways which link to these, and thereby limit the ability to park cars on those locations.
33. Upton Street meets McDougall Street at a priority ('stop') intersection where traffic on the latter retains the right of way. The layout is broadly similar to the McDougall Street / Brownston Street intersection, with auxiliary lanes being formed within the flush median and raised islands on Upton Street provided to assist pedestrian crossing movements.
34. There is a continuous footpath of 1.6m width along the eastern side of McDougall Street adjacent to the site, but for most of the site frontage, there is no footpath on the western side (although there is a short, 20m, section of footpath just north of Upton Street). Both Brownston Street and Upton Street have footpaths on their southern side only.
35. Traffic flows on McDougall Street at the site frontage are in the order of 2,700 vehicles per day with Upton Street carrying 1,300 vehicles per day. Since it serves a tourist-type of activity, I anticipate that traffic flows on Brownston Street adjacent to the site will be highly seasonal. Data collected by the Council suggests volumes in the order of 3,900 vehicles per day but in my view this is likely to be lower during off-peak seasons.

36. Again anticipating that each road carries around 10% of its daily traffic in each peak hour, this indicates that McDougall Street carries a maximum flow of 270 vehicles per hour (two-way) with Brownston Street carrying a seasonal maximum of 390 vehicles per hour (two-way) and Upton Street carrying 130 vehicles per hour (two-way).
37. There are no formal surveys of pedestrian volumes in the immediate area, but from my observations volumes are currently relatively low.
38. I have used the NZTA Crash Analysis System to identify all reported crashes on the sections of the roading network adjacent to Submission Site 2. This shows that between 2012 and 2017, a total of 2 accidents were recorded and both occurred at the McDougall Street / Brownston Street intersection. One involved a westbound vehicle on Brownston Street which was stationary at the intersection and another vehicle ran into the rear. The other involved a driver turning from Brownston Street (west) into McDougall Street (south) who failed to give-way to a southbound vehicle on McDougall Street.
39. No accidents were recorded on McDougall Street, Brownston Street or Upton Street at the site frontage, or at the McDougall Street / Upton Street intersection.
40. I consider that the current accident records do not indicate any inherent road safety deficiencies on the roading network.

Comparison of Provisions and Outcomes: Submission Site 1

Proposed District Plan Provisions

41. Under the proposed zoning, Submission Site 1 would have a 'Town Centre Transitional Overlay' ("TCTO") with an underlying zoning of a Medium Density Residential Zone ("MDRZ")¹. With regard to traffic and transportation matters:
 - a. Policy 8.2.2.3 of the Proposed District Plan ("PDP") states that street frontages shall not be dominated by garaging, parking and accessways;

¹ I have referred to this as "MDRZ/TCTO" within this evidence
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- b. Policy 8.2.5.3: Walking and cycling is encouraged through provision of bicycle parking and, where appropriate for the scale of activity, end-of-trip facilities (shower cubicles and lockers) for use by staff, guests or customers.
 - c. Policy 8.2.7.3 states that access and parking is located and designed to optimise efficiency and safety and minimise impacts to on-street parking;
 - d. Policy 8.2.7.4 states that a reduction in parking requirements may be considered in Wanaka where a site is located within 400 m of the edge of a town centre zone; and
 - e. Policy 8.2.12.3 notes that consideration of variances to the parking rules is allowed where a development proposal demonstrates high quality urban design.
42. These policies are not currently encompassed within any rules relating to transportation matters.
43. Within the Wanaka Town Centre Zone (“WTCZ”), Policy 13.2.6.4 describes the “provision of an adequate range of parking options so residents and visitors can access the town centre with off-street parking predominantly located at the periphery in order to limit the impact of vehicles”.
44. Policy 13.2.6.4 is carried through into Rule 13.4.3 for Visitor Accommodation where “the location, provision, and screening of access and parking, traffic generation, and Travel Demand Management” is a Controlled Activity and Rule 13.4.5.2 for Licensed Premises where car parking and traffic generation is a matter for discretion.

Discussion

45. In respect of the proposed MDRZ/TCTO, I consider that there is a particular difficulty due to a lack of clarity about how the policies will be applied in practice. For instance, while Policies 8.2.7.4 and 8.2.12.3 suggest that parking provision might be reduced, there is no confirmed mechanism by which this is achieved. Consequently at this stage there can be no certainty that such reductions in parking could be applied as of right or what the quantum of those reductions might be. Rather, I

anticipate that applications will have to rely on the Assessment Matters in Chapter 14 ('Transport') of the operative District Plan, which is a qualitative assessment and open to debate.

46. In this regard, I consider that Policy 8.2.12.3 is particularly problematic because it sets out that the ability to apply parking reductions is influenced by the quality of urban design provided. It is certainly the case that a well-designed development can make provision for non-car travel, but this is a wholly different issue to demonstrating that the remaining parking demand can be accommodated without unduly affecting the safety and efficiency of the roading network. Moreover, since urban design encompasses many more matters than simply travel-related issues, it will be possible to achieve a "high quality urban design" where parking reductions are not appropriate. Additionally, urban design is not an Assessment Matter in Chapter 14 of the operative District Plan.
47. That said, I agree that reducing parking is appropriate under some circumstances. As part of another commission, I was responsible in part for the development of 'parking reduction factors' that are now included within the Christchurch City District Plan. One of the first tasks in the development of these was to determine under what circumstances a reduction was appropriate. The conclusion was that the ability to reduce parking depends solely on the ability for people to use alternative modes of travel to the car. I did not find any evidence that the quality of urban design was a factor in whether people chose to travel by car or another mode.
48. Consequently, while I acknowledge the intention of the MDRZ/TCTO, at present I have concerns that Policy 8.2.12.3 will be difficult, if not impossible to meet. To my mind it is likely that there will be instances where an urban designer assessing a development may feel it is appropriate to vary the parking rules, but as a traffic engineer reviewing the same development necessarily has different criteria, they may consider that it is not appropriate for any variation. Such an outcome is not uncommon within the District already, and I have been involved in numerous developments where the Council's Urban Design Panel has approved of a particular number of parking spaces or parking layout, only for this to be redesigned significantly when assessed from a traffic engineering perspective.

49. The proximity of a site to a defined commercial core (in this case, the town centre) is an issue that enables a parking reduction however, and in the Christchurch District Plan, the reduction that would be applicable to the MDRZ/TCTO is 10%. This reflects that as part of my research into possible parking reduction factors, I was unable to identify one single factor that gave rise to a reduction of more than 20% in the parking provision. Rather, the ability to reduce parking substantially only arose when the site possessed a number of complementary factors.
50. In this case, I consider that although this means that although parking might be reduced, it is unlikely to be completely eliminated. This presents a difficulty with regard to the intention of Policy 8.2.2.3 that street frontages shall not be dominated by garaging, parking and accessways. The MDRZ/TCTO is presently within 31 separate titles. Unless there can be certainty that there *will* be a substantial relaxation in the parking and access requirements, this means that 31 separate accessways and 31 separate (and likely very small) parking areas will be required and may have to be developed if individual sites are brought forwards at different times. This outcome would not achieve this policy, but equally, may be unavoidable when the particular parking demands of the various lots are considered in isolation.
51. From a traffic engineering viewpoint, I consider that there is also a contradiction between Policies 8.2.7.3 and 8.2.12.2. Under the former, parking is to be designed to minimise the impacts on on-street parking. However, if there is a reduction in the parking provision as promulgated in Policy 8.2.12.3, then there will inevitably be an increased demand for on-street parking nearby and hence to *greater* impacts arising from higher demand and greater on-street occupancies.
52. There also appears to be a contradiction between Policy 13.2.6.4 (for the WTCZ) and Policy 8.2.7.4. The latter sets out that parking reductions can be considered where a site is located within 400 m of the edge of a town centre zone, but the former expects that off-street parking is predominantly located at the periphery of the town centre. I consider it is unclear how, from a practical perspective, these will be balanced since one envisages parking reductions will be applied in an area where the other expects that parking will be predominantly located.

53. Lastly, from a roading management perspective, there are several different demands on this section of Brownston Street. There is already a strong north-south flow of pedestrians crossing the road, and I anticipate that this will continue. At the same time, and as I noted previously, Council has for some time signalled that Brownston Street is likely to be the predominant route in accommodating east-west through traffic in the town, and as a result, traffic volumes are likely to increase.
54. Within such an environment, it is best practice to seek to minimise the potential points of conflict with property accesses, both to ensure that the traffic-carrying capacity of the road is not compromised, but also to ensure that road safety concerns do not develop. This would not be achieved under the proposed provisions for the MDRZ/TCTO due to the potential for numerous site accesses and small parking areas. These would create multiple potential conflict points, as well as adverse efficiency outcomes due to drivers circulating to look for a vacant parking space.
55. In contrast, under the submitter's provisions to change the underlying zoning to WTCZ² (set out in Mr Greaves' evidence), there is no requirement to provide car parking under Chapter 14 of the operative District Plan (Rule 14.2.4.1(i)(a)). I consider that this very clearly signals an expectation that on-site parking is not envisaged at every site within this zone. In the case of Submission Site 1, this gives far greater certainty that there will be fewer site accesses, and in practice, this better achieves the intent of Policy 8.2.2.3 than the underlying MDRZ zoning.
56. This approach also decouples the reduction in on-site parking from urban design matters, which as I noted previously should not be linked in this way (in my view). This thereby eliminates the inherent internal tension within Policy 8.2.12.3 whereby an urban designer may consider a reduction in parking is justified and a traffic engineer holds the opposite view.
57. Finally, the significant reduction in the number of accesses and small parking areas creates benefits for the management of Brownston Street.

² I have referred to this as "WTCZ/TCTO" within this evidence
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The number of possible conflict points will be reduced, which will assist in supporting road safety. Traffic flows will necessarily also be lower because drivers will not be searching for a parking spaces, thereby improving the efficiency of the road and making it easier for pedestrian crossing movements.

58. In practice, the more intensive development that would be enabled by the underlying WTCZ is likely to result in an increase in overall car parking demand compared to the MDRZ/TCTO zoning. However, the ability to provide no parking within the WTCZ/TCTO means that this intensification will not necessarily translate into an increase in traffic flows on the adjacent road network. Rather, by enabling car parking to be specifically considered in an integrated manner with the WTCZ (as is proposed), those sites in the TCTO that have the ability to absorb car parking can do so, and those where adverse effects would arise can seek to accommodate parking remotely. Under the latter scenario, the vehicles generated by the development would use the road network further afield.
59. Overall then, I consider that the policies for the MDRZ/TCTO will be difficult to fulfil in their notified form. Rather, the zoning to WTCZ/TCTO and the resultant certainty of minimising on-site parking, reducing the total number of vehicle accesses, and supporting parking on the periphery of the town centre better achieves the outcomes that are sought for this area.

Other Matters

60. The rezoning of the MDRZ/TCTO to WTCZ/TCTO presents a potential risk if in doing so, it becomes unreasonable or unlikely that people would park on the periphery and then walk to the zone. One practical way of assessing this is to evaluate the walking distances that would arise.
61. In this regard, Wanaka town centre is approximately 550m from east to west and 230m from north to south. These distances can be walked in around 8 minutes and 3 minutes respectively and they are well within a practical maximum walking journey length of 1km set out in the government's strategy 'Getting There – On Foot, By Cycle'.

62. Rezoning the MDRZ/TCTO means that the town centre would remain approximately 550m from east to west but would increase from 230m to 280m from north to south. The latter increases the journey time from around 3 minutes to nearer to 4 minutes, but it remains a practical walking distance.
63. Consequently, I conclude that there is no reason why the WTCZ/TCTO zone is less accessible on foot compared to the proposed MDRZ/WTCZ.
64. There is a further potential risk relating to road safety, because an enhanced focus on town centre activities towards the south of Brownston Street is likely to lead to a greater number of north-south pedestrian crossing movements of the road, and hence a higher possibility of conflicts between the two types of road user.
65. I noted previously that there is already a series of pedestrian refuges on Brownston Street (an average of one refuge per 150m) to assist pedestrian crossing movements. I consider that these are likely to have contributed to the excellent safety record on Brownston Street (as no accidents involving pedestrians have been recorded in the past five years). In view of the width and alignment of Brownston Street, it is possible for additional refuges to be installed within the existing carriageway to further enhance crossing opportunities and ensure that any such safety risks do not arise.

Conclusions

66. Based on my assessment, I consider that the transportation outcomes sought for the TCTO will not be achieved by the policies of the underlying MDRZ zoning and that in practice, they will be extremely difficult to apply. In my view, amending the underlying zoning of the TCTO to WTCZ with the provisions proposed by Mr Greaves better achieves the expected outcomes.

Comparison of Provisions and Outcomes: Submission Site 2

Proposed District Plan Provisions

67. Under the proposed zoning, Submission Site 2 would be within the Low Density Residential Zone (“LDRZ”). With regard to traffic and transportation matters this zone has the following policies:

- a. Policy 7.2.7.1: Access and parking is located and designed to optimise efficiency and safety and minimise impacts to on-street parking.
 - b. Policy 7.2.9.2 Ensure any commercial development is low scale and intensity (100m² or less gross floor area) and does not adversely affect the local transport network and the availability of on-street parking.
68. These policies are addressed in the following rules:
- a. Rule 7.4.10: For three or more units per site, safety, efficiency and impacts to on-street parking and neighbours are matters for discretion;
 - b. Rule 7.5.15: There shall be no minimum parking requirements for a Residential Flat having no more than 1 bedroom.
69. Within the MDRZ, there are the following policies:
- a. Policy 8.2.2.3: Street frontages shall not be dominated by garaging, parking and accessways.
 - b. Policy 8.2.5.3: Walking and cycling is encouraged through provision of bicycle parking and, where appropriate for the scale of activity, end-of-trip facilities (shower cubicles and lockers) for use by staff, guests or customers.
 - c. Policy 8.2.7.3: Access and parking is located and designed to optimise efficiency and safety and minimise impacts to on-street parking.
 - d. Policy: 8.2.7.4 A reduction in parking requirements may be considered ... where a site is located within 400 m of either a bus stop or the edge of a town centre zone.
 - e. Policy: 8.2.12.3 Allow consideration of variances to rules for ... parking where part of an integrated development proposal which demonstrates high quality urban design.

70. These policies are addressed in the following rules:
- a. Rule 8.4.11.2: For four or more units per site, safety, efficiency and impacts to on-street parking and neighbours are matters for discretion.

Discussion

71. In respect of the two possible underlying zonings, and visitor accommodation, it is important to note that Submission Site 2 is located approximately 550m from the western side of the WTCZ. As I noted previously, such a distance is well within a practical walking journey length, and as such I consider that regardless of which zoning is in place, there will be high potential for walking trips to be made to employment and/or tourist activities within the town centre.
72. It is also evident that there are more restrictions on the general layout of development within the MDRZ than in the LDRZ (particularly in regard to the dominance of garaging, parking and accessways, encouragement of walking and cycling). Issues such as road safety, efficiency and impacts to on-street parking and neighbours are matters for discretion under both zonings.
73. As a result, I consider that the primary difference between the proposed provisions and the provisions that are sought is Policy 7.2.9.2. This policy means that in the LDRZ there is a requirement that any commercial development does not adversely affect the local transport network and the availability of on-street parking, but there is no comparable assessment required in the MDRZ. Furthermore, a greater intensity of development would be permitted under the zoning sought than under the zoning proposed meaning that any adverse effects could potentially be greater.
74. Consequently, I have assessed whether for this particular site, this difference is material or not. To do this, I have split the policy into three parts, potential effects on road efficiency, potential effects on road safety, and potential effects on on-street parking.
75. With regard to road efficiency, I previously set out that McDougall Street carries around 270 vehicles per hour (two-way) with Brownston Street

carrying a seasonal maximum of 390 vehicles per hour (two-way) and Upton Street carrying 130 vehicles per hour (two-way).

76. The Austroads Guide to Traffic Management Part 3 'Traffic Studies and Analysis' sets out a methodology whereby the level of service provided by a road can be found. Using this, and taking account of the peak hour flows, each road presently provides Level of Service B or better at the peak times. This is defined as a condition of stable flow where drivers have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream.
77. My calculations show that to change this to Level of Service D, which is defined as still being a condition of stable flow but approaching unstable flow conditions, an *additional* traffic volume of 550 vehicles in the peak hour would be required. This represents a more than a doubling of the prevailing volumes.
78. Standard traffic generation rates show that in the peak hours, a residential dwelling or visitor accommodation unit generates one vehicle movement. In this case, because Submission Site 2 is close to the town centre, I consider that the rate is likely to be higher than would arise. Nevertheless, if it is applied in this case, it would mean that 550 houses (or visitor accommodation units) would need to be developed within the site before adverse outcomes would arise in respect of the road network capacity. I consider that a development of such a scale within the limitations of the size of the site is fanciful.
79. That said, within an urban area, the limitation on the road capacity is most typically the intersections. Accordingly, I have assessed the capacity of the McDougall Street / Brownston Street intersection in the peak hours. For this I have used to computer software package Sidra Intersection.
80. Based on current levels of traffic, the intersection provides Level of Service B in the peak times. To change this to Level of Service D would require an additional 500 traffic movements. For the reasons set out above, I continue to consider that this scale of development within the site would be fanciful.

81. In respect of potential effects on road safety, I set out previously that in the past five years there have been only 2 accidents on this part of the road network. Accordingly, I do not consider that an increase in traffic flow arising from a more intensive development within Submission Site 2 would lead to any existing safety issues being exacerbated or to new road safety issues arising.
82. Regarding on-street parking, I do not consider that there would be any adverse effects arising provided that any development within the site was self-sufficient for car parking. However I note that under the LDRZ, car parking is not required at small residential flats (Rule 7.5.15) and as such this may lead to increased demand for on-street parking. Such a provision is not included within the MDRZ.
83. Overall then, I consider that the removal of the provision requiring an assessment of the adverse effects of commercial development on the local transport network and the availability of on-street parking does not result in any potential adverse outcomes for Submission Site 2.

Conclusions

84. Based on my assessment, I consider that there are no transportation-related reasons why the site could not be rezoned as MDRZ with a Visitor Accommodation overlay. In many cases the transportation-related provisions are the same as for the proposed LDRZ and in respect of the most important transportation issue of the safety and efficiency of the road network, my assessment shows that there would be no adverse effects arising from the rezoning.

Response to Officer Report

85. I have read the report of Ms Wendy Banks, consultant transportation engineer to the Council, in respect of the submission.
86. For Submission Site 1, Ms Banks sets out that she opposes the rezoning due to the likely increase in traffic flows. I do not agree, and I am puzzled by much of Ms Banks' reasoning.
87. Ms Banks appears to have concerns that the rezoning to WTCZ would lead to increases in traffic flows on Brownston Street. As I have set out above, exactly the opposite would occur. Under the MDRZ/TCTO, in my

view it is likely that there will be car parking required at many, if not all, of the lots within the zone because there is no ability to completely eliminate the parking provision as of right. Conversely, as Ms Banks rightly points out, there is no requirement to provide parking if the area was zoned as WTCZ/TCTO. As such, under the WTCZ/TCTO, vehicles associated with Submission Site 1 would not be present on all sites. They would only be travelling to Submission Site 1 if parking was provided there, as required under the MDRZ/TCTO.

88. This issue is perhaps best illustrated by Ms Banks' concern that rezoning Submission Site 1 to WTCZ would result in overflow parking occurring in Upton Street. To avoid this occurring, she recommends retaining Submission Site 1 as MDRZ/TCTO. However it must necessarily follow that to avoid any parking on Upton Street, the lots within the MDRZ/TCTO must provide for their own parking needs on-site. Since cars must travel to and from these parking areas, there must necessarily be an increase in the traffic flows on the frontage roads. There will also be an increase as drivers look for a parking space in the MDRZ/TCTO. Yet an increase in traffic flow is the outcome Ms Banks seeks to avoid.
89. Ms Banks considers that an increase in traffic in the WTCZ is not desirable as it decreases the efficiency and also compromises pedestrian safety. I agree, and it is for those very reasons that I am able to support the proposal to rezone Submission Site 1 as WTCZ/TCTO. I consider that retaining it as MDRZ/TCTO would lead to an increase in traffic.
90. For Submission Site 2, Ms Banks considers that the rezoning from LDRZ to MDRZ should not create significant impacts on the transport road network, providing that 2 car parking spaces per unit are provided as per the District Plan. I agree, and I note that if fewer parking spaces were provided then a resource consent application would have to be made and the effects of this would be considered at the time.
91. In respect of the Visitor Accommodation overlay, Ms Banks considers that it "may create traffic and safety issues due to the increase in demand. It will also likely create parking problems". I do not agree with this assessment. Rather, my own analysis has shown that the road network has ample capacity to accommodate the traffic flows without

road safety issues arising. In part, this is due to the very limited size of the sites, which limits the extent of development that could occur.

92. I also do not agree that parking issues would arise. The MDRZ has a policy (8.2.7.3) whereby “access and parking is located and designed to optimise efficiency and safety and minimise impacts to on-street parking”. In my view if there are impacts on on-street parking, this policy enables the Council to take such matters into account.

Conclusions

93. In respect of Submission Site 1, I consider that there are a number of implications of the MDRZ/TCTO policies which mean that traffic flows on Brownston Street are likely to increase, with multiple small car parks and access points being formed. In essence, in my view the safe and efficient functioning of the road network is not supported by the MDRZ/TCTO, whereas under the WTCZ/TCTO such issues are addressed through enabling parking to be provided elsewhere rather than on each individual site.
94. My analysis shows that the roading network around Submission Site 2 is able to accommodate a substantial increase in traffic flow of a magnitude that is far greater than would be generated by a rezoning to MDRZ with a Visitor Accommodation overlay.
95. I do not agree with Ms Banks assessments of the submission. With regard to Submission Site 1, I agree with her views that it is important to ensure that the efficiency and safety of the transportation networks is not compromised. However I consider that such an outcome is better achieved under the WTCZ/TCTO zoning rather than the MDRZ/TCTO. For Submission Site 2, I have provided an analysis to show that traffic, safety or parking issues are highly unlikely to arise.
96. For these reasons, I am able to support the submission of Varina Proprietary Limited for the rezoning of both Submission Sites 1 and 2 as sought.



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Andy Carr

2 April 2017

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Date