

TO:	Bede Morrissey, Policy Planner, City Development
FROM:	Logan Copland & Trevor Watson - DCC Transport
DATE:	15 March 2022
SUBJECT:	VARIATION 2: DCC TRANSPORT RESPONSE TO REQUEST FOR COMMENTS ON DCC-PROPOSED GREENFIELD SITES

INTRODUCTION:

1. City Development have sought expert transport advice in relation to Variation 2 to the 2GP (Additional Housing Capacity). This memorandum contains the expert advice sought.
2. This memorandum will be used to inform the reporting planning officer's Section 42A Report. Specifically, it provides a more detailed assessment of each notified site with a view to identifying potential transport issues associated with them.
3. Transportation infrastructural issues have been identified in relation to each site, including the need for improvements to the transport network to accommodate additional development. The reader is advised that in most cases (unless otherwise stated) that these improvements are not currently planned or funded.
4. Finally, submissions in relation to each site have been considered and responded to, as requested.

GF01: Part 155 Scroggs Hill Road, Brighton – Rezoning from Rural Residential 1 (RR1) to Large Lot Residential 1 (LLR1)

5. For the sake of clarity, GF01 is shown in the below snippet as the area covered in red hatching.



6. The Council's site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 45 dwellings under the proposed Large Lot Residential Zoning.
7. The original Transport comments noted that Scroggs Hill Road is a high-risk rural road. The speed limit on Scroggs Hill Road is currently 80km/h, and it was noted that this was proposed to be reduced. It was noted that improvements would be needed to Scroggs Hill Road, which may include increased signage and road markings, and potentially crash barriers, particularly at affected intersections.
8. As an overarching comment, we note that it would seem unusual to rezone this land to a residential type of zone when it abuts Rural Residential 1 zoned land to the north and south. Hence, the rezoning as proposed appears to be a 'spot zone' proposal, as opposed to a natural extension of the existing Township and Settlement zone, which terminates some 340m to the south of GF01.
9. This is considered to be problematic from a transport perspective because urbanised transport infrastructure such as footpaths kerb and channel, is not readily available at the southern boundary of the site for a developer to connect into and extend along their frontage. Such infrastructure would be reasonably expected by new residents, as it would be required to ensure the new residents are provided with suitable pedestrian access, and also to assist with managing vehicle operating speeds on the road.
10. Consequently, rezoning of GF01 to a residential zone type, in isolation, would not only necessitate installation of urbanised transport infrastructure along Scroggs Hill Road along the development site's frontage, but also south of the development site in order to link in with existing infrastructure outside 50 Scroggs Hill Road. While it would appear feasible to provide this infrastructure from a construction perspective, the work is unprogrammed and unfunded. This would need to be addressed prior to any development commencing.
11. Should the rezoning proceed, it is considered that the speed limit on Scroggs Hill Road will need to be reduced. According to MegaMaps, the safe and appropriate speed is 60km/h north of 86 Scroggs Hill road, but this is likely to be based on the land uses either side of the road being rural. If a residential zone is advanced, it is likely that the speed limit would need to reduce to a maximum of 50km/h, with urbanised infrastructure provided to ensure this speed is respected by motorists. This will be required to reduce the potential for crashes that would inevitably increase as a result of construction of additional conflict points created by new residential vehicle accesses and intersections on what is currently a rural standard of road.
12. It is further noted that the southern boundary of the site is located over 1km away from the nearest bus stop, which is situated on Brighton Road. This is well outside the 400m distance people would be usually be willing to walk to a public transport stop. It is considered that attempting to address this would be problematic due to the tortuous alignment of Seaview Road and Scroggs Hill Road, which is likely to make bus access unachievable, or at the very least, extremely difficult. In that sense, the site is very isolated and would increase reliance on private motorcar.
13. In terms of traffic generation, it is anticipated that the development of 45 dwellings would generate in the order of 369 vehicle movements per day and 41 vehicle movements during the peak network hours.
14. According to RAMM, the most recent traffic count on Scroggs Hill Road (2019) revealed an ADT of 641vpd between Seaview Road and the end of the existing Township and Settlement Zone; and 432vpd between Seaview Road and Brighton Road. Peak hour volumes were 60vph and 46vph, respectively.
15. It is considered that the majority of traffic generated by the development would travel toward Brighton Road, either via Seaview Road or Scroggs Hill Road. Assuming that 100% of the traffic travels this way, the daily traffic volumes on Scroggs Hill Road would increase from 641vpd to 1,010vpd, and the peak hourly volumes would increase from 60vph to 101vph.
16. In terms of road safety, the NZTA Crash Analysis System (CAS) has been used to evaluate the reported crash history on Scroggs Hill Road and Seaview. The search period was 2016-2022

inclusive. The search area included Scroggs Hill Road from its intersection with Brighton Road up to the 250 Scroggs Hill Road, and also the duration of Seaview Road.

17. Within these parameters, only two crashes were reported, neither of which resulted in any injuries. One crash occurred outside 4 Scroggs Hill Road when a driver struck a parked vehicle and the other occurred after police received a complaint regarding driver behaviour prior to the crash. It was later found that the driver was intoxicated.
18. While the above analysis does not show any crash trends or safety deficiencies as such, the local Community Board have requested safety improvements in the area, including Seaview Road, between Scroggs Hill Road and McIntosh Road (including the McIntosh Road intersection). There is parking along the road and footpath facilities are inadequate with no kerb and channel. This results in vehicles driving on the pedestrian facility which is an obvious potential safety issue. This would be amplified with additional traffic generated by the rezoning.
19. Additionally, the southern extent of Scroggs Hill Road takes a tortuous alignment with a hairpin curve, a steep gradient from Brighton Road, and a narrow carriageway formation. The intersection with Brighton Road is also poorly aligned which makes the left turn in and right turn out movements extremely difficult, if not impossible.
20. It is considered that with the additional development traffic that the intersection and hairpin curve would need to be improved. This would require substantial earthworks which have not been investigated at this stage. Further safety improvements need to be investigated on Seaview Road / McIntosh Road at the same time.
21. It is again noted that none of the above improvements are currently planned or funded.

RS160: Part 155 and part 252 Scroggs Hill Road– Rezoning from RR1 to LLR1, LLR2 & Township and Settlement Zone (as shown in the submission’s proposed structure plan) & RS220: 53, 64, 73, 74, 80, 85, 86, 92, 100, 103, 103A, 123, 127 Scroggs Hill Road – Rezoning from RR1 to LLR1 or Township and Settlement Zone

22. For the sake of clarity, the proposed Structure Plan area provided by submitters (which includes GF01 & parts of RS160), has been assessed, and then RS160 and RS220 have been assessed collectively.
23. Figure 1 depicts the structure plan proposed by submitters. City Development have advised in an email dated 09/03 that a yield in the order of 157 dwellings could be developed across this land area. Note that the structure plan proposed by the submitters includes land within GF01 **AND** RS160 area.

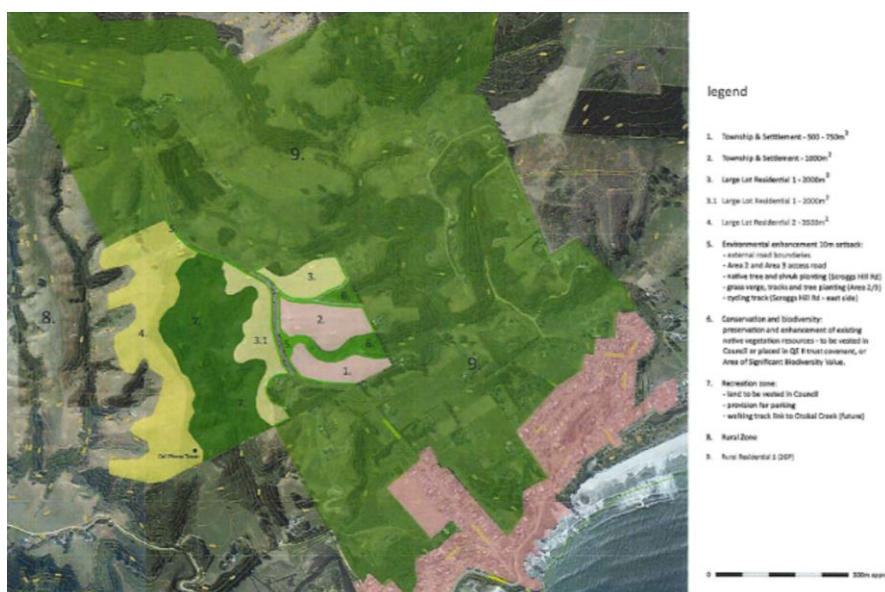


Figure 1: Potential Structure Plan proposed by Submitters

24. Figure 2 depicts the RS160 and RS220 areas, as well as GF01 which has been evaluated separately above. City Development have advised that the yield for RS160 on its own is yet to be determined. However, you have advised in an email dated 10/03 that the anticipated yield for RS220 is likely to be in the Range of 87-437 dwellings. However, it was further noted that should a rezoning be approved, the lower end of this scale is a more likely result.

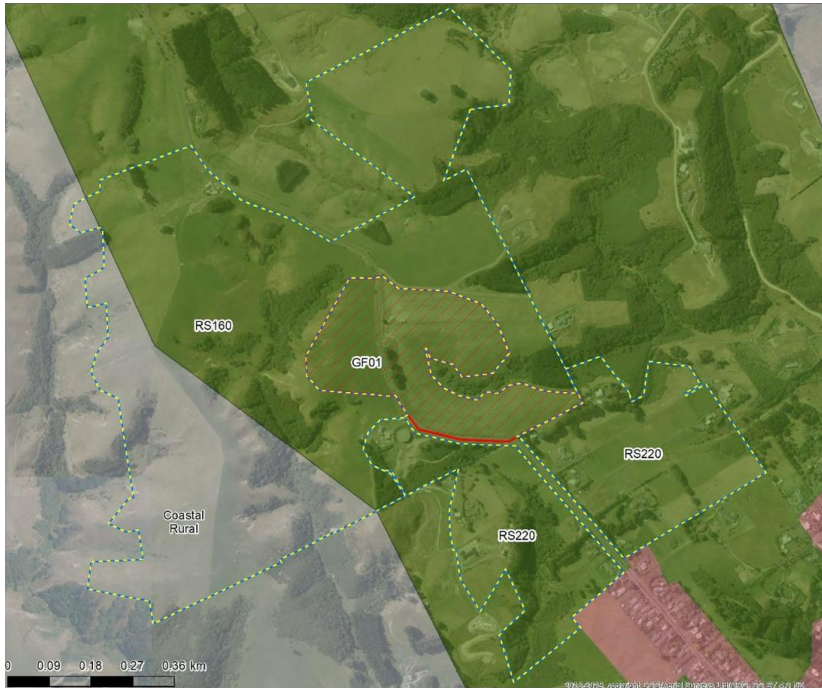


Figure 2: Plan showing RS160 and RS220 (note also the location of GF01 which has been evaluated above).

25. Hence, assuming the areas within the submitter's Structure Plan **AND** RS220 were rezoned, a combined yield in the order of 244-694 dwellings would be the result. If GF01 was rezoned also, the overall yields would be in the order of 289-739 dwellings.
26. FS75.1 & FS75.2 state that 103A Scroggs Hill Road should not be included in any rezoning. They state that this property is down a leg-in driveway with access only via an easement
27. FS217.3 & FS217.4 oppose the rezoning of the rejected site areas shown above, and list transportation as a key reason for this opposition. They consider that the current transportation network is at almost peak, particularly the traffic up and down Seaview Road and also at the bottom of Scroggs Hill Road. They note that these roads are 'incredibly narrow' and there are multiple near misses on a regular basis. In their view, with more residents there will need to be some 'serious thought' around how traffic flow and risk will be managed.
28. In response to FS75.1 & FS75.2, capacity of a ROW is not something that would typically be considered as part of a rezoning proposal. The subdivision consent process provides the appropriate platform for these types of more detailed considerations.
29. In response to FS217.3 & FS217.4, it is noted that these concerns were noted by Transport in the assessment of the above GF01 site. These concerns would be amplified with the additional dwelling yields enabled by RS160 and RS220 (as described in Paragraph 20).
30. In the peak hours, it is anticipated that collectively, the rejected sites could generate between 220vph-625vph. Daily traffic movements could be between 2,000vpd-6,000vpd.
31. This would be traffic that is additional to that generated by the rezoning of GF01.
32. It is considered that this level of development would have a significant impact on the Council's road network, and no more detailed assessment of these impacts has been provided by the submitters.
33. Overall, it is considered that in the absence of any detailed transportation assessments, that even at the lower end of development generated by the rejected sites (should they be rezoned), that Transport would not be able to support these zone changes without significant Transportation infrastructure upgrades which may not be possible without land acquisition

and significant engineering works. Works which even if achievable may not be acceptable from an overall Planning Policy perspective.

GF02 and GF02a: 201, 207, 211 Gladstone Road South, East Taieri – Rezoning from Rural (Taieri Plain) to General Residential 1 (GR1)

34. The Council's site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 36 dwellings under the proposed Township and Settlement Zoning.
35. The previous transportation comments noted that an additional footpath connection on Riccarton Road East may be required. Additionally, a footpath on the southern side of Gladstone Road South may be needed. Transport also raised concerns about the impacts of the development on the Gladstone Road/Riccarton Road intersection. We noted that a Level Crossing Safety Impact Assessment may be required.
36. The existing transport infrastructure on Gladstone Road South, west of Riccarton Road, is briefly described below in paragraphs 37 - 42, below.
37. The road has a typical carriageway width of 7.0m. It has a posted speed limit of 100km/h. It is classified as a Local Road in the District Plan. Data from Mobile Roads suggests an estimated ADT of 1010vpd, reducing to 199vpd directly west of the development site. A 2017 traffic count showed an ADT of 340vpd between the intersection and the development site. The road is sometimes used as a bypass to SH1 which can have an irregular impact on traffic volumes.
38. The most recent speed reading from 2017 revealed that the 85th percentile operating speed on this section of road was 78km/h. Note that this is 22km/h less than the posted speed limit.
39. The road has a narrow, unsealed footpath with kerb and channel on its southern side, though this terminates at the western boundary of #193. West of #193, there is an unsealed shoulder and a side drainage ditch. The northern side of the road also has a side drainage ditch and a line of utility poles.
40. There are no safe crossing points at the intersection and hence, the existing unsealed footpath does not currently link to any other pedestrian facilities in the transport network and is therefore considered inadequate in the context of additional development.
41. The current layout of the intersection facilitates high-speed turning movements which is poor from a pedestrian safety perspective.
42. There is no street lighting on Gladstone Road south, west of Riccarton Road East.
43. Since General Residential 1 zoning as proposed will create an urban environment, it is considered that urbanised transportation infrastructure would be expected on Gladstone Road South and should therefore be provided by the developer. This is likely to include the following at a minimum (again noting that these works are unplanned and unfunded):
 - Replacement of existing swale drainage with footpath, kerb and channel, at least on the southern side of the road.
 - Widening and sealing of the existing unsealed footpath. Noting the current lack of cycle facilities, this should include consideration of a shared pedestrian/cycle path, and how this facility would connect to existing transportation infrastructure. It is likely that this would need to link with the existing shared path on the northern (railway) side of the road with a safe crossing point provided.
 - Review of street lighting infrastructure and upgrading if required.
44. In addition to this, an integrated transport assessment would need to be undertaken by the developer at the time of subdivision. This would need to specifically assess the Riccarton Road East / Gladstone Road South intersection, including the impacts of the development traffic on its safe and efficient operation, recognizing the constraints at the intersection relating to the adjacent level crossing.
45. In terms of access to the development site from Gladstone Road South, the Code of Subdivision requires Safe Intersection Sight Distance of 250m for a new rural intersection in 100km/h speed environment. Noting that the roading alignment is straight and comprises only small vertical curves, it is considered that this sight distance can be achieved. Furthermore, the 2017

speed count indicates that this the operating speeds on the road are much lower than the posted speed limit and that these would likely reduce further if urbanised infrastructure was installed as recommended. It is considered that the Council would need to review the current posted speed limit of 100km/h in light of the development if /when it occurs. This can be undertaken outside of the rezoning process.

46. The new intersection would be expected to comply with the Code of Subdivision and Austroads Guide to Road Design Part 4A Unsignalised and Signalised Intersections. The internal subdivision roading would need to be constructed in accordance with the standards contained within the Code of Subdivision and/or NZS4404:2010 – Land Development and Subdivision Infrastructure.
47. It is noted that there appears to be no opportunity for the development site to connect with Riccarton Road East, even if that was only for pedestrians and cyclists. Previous construction of cul de sac roads under recent residential subdivisions (such as Cuddie Close) do not appear to have considered potential for future growth and associated transport connectivity. To that end, we would encourage the developer to enter discussions with any neighbours that have the ability to provide for a walking/cycling connection to Riccarton Road East.
48. Similarly, consideration should be given to the potential for future westward urban expansion when designing the subdivision. This could be achieved by preserving a strip of land for future road construction should that need eventuate.
49. Subject to the preceding comments, recommended infrastructural improvements, and pending the outcomes of an integrated transport assessment, it is considered that the proposed rezoning can be supported from a traffic and transportation perspective.

GF03: 16 Hare Road and 7 Kayforce Road – Rezoning from Rural Residential 1 (RR1) to Township and Settlement (T&S)

50. The Council's site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 38 dwellings under the proposed Township and Settlement Zoning.
51. The development site is located at the end of Hare Road / Edna Street, which are Local Roads. Edna Street (which becomes Hare Road at the Kayforce Road intersection) intersects with Brighton Road at its southern extent. Brighton Road is a Strategic Road.
52. Edna Street operates as a two-lane / two-way road with a painted centre line. There is a sharp bend adjacent to 1 Edna Street.
53. There is a footpath with kerb and channel on the eastern side of the road which runs from the Brighton Road intersection up to the Kayforce Road intersection. Based on historic aerial imagery, it appears that the footpath, kerb and channel previously only went as far as 17 Edna Street, and was extended up to Kayforce Road after 2013. It appears that as part of this work, footpath, kerb and channel was also constructed on the southern side of Kayforce Road, and the unsealed footpath on the eastern side of Bennett Road was sealed.
54. North of Kayforce Road, there is an unsealed footpath on the eastern side of the road but there is no kerb and channel. Instead, side drainage comprises shallow swales with culvert vehicle crossings providing physical access to properties.
55. The original Transport comments indicated that localised upgrades to the existing transport network would likely be necessitated by the proposed rezoning. This included upgrading/construction of footpath, kerb and channel to link with existing footpath infrastructure at the Kayforce Road/Hare Road/Edna Street intersection as well as improvements to that intersection for safety reasons in light of increased traffic volumes.
56. Submissions received have raised transportation related concerns with the proposed rezoning. I have considered these submissions. Below, I have summarized them and responded accordingly.
57. One submission considers the Edna Street / Kayforce Road and Hare Road intersection to be 'hazardous' and 'not well aligned'. It mentions that traffic turning from Edna Street into Kayforce Road often uses the opposing traffic lane when negotiating the junction. Additionally,

it states that traffic travelling from Edna Street toward Hare Road (northbound traffic) often does so on the wrong side of the road. Hence, the submission suggests that the intersection layout and alignment would need to be improved. It also mentions that the road is narrow in places and generally unsuitable to accommodate increased traffic volumes.

58. It is considered that the concerns raised in the submission have generally already been noted by DCC Transport, and improvements recommended to mitigate said issues. These are outlined in Paragraph 55, above. The exact type of improvement would be subject to detailed design. It is likely that the improvements would include formal marking and signage to clearly indicate the priority to avoid potential ambiguity in this regard. Implementation of parking restrictions could also be considered to improve sight distances.
59. Additionally, the NZTA Crash Analysis System (CAS) has been used to evaluate the safety record of Edna Street and Hare Road. The search area included the Brighton Road intersection and extended all the way to the development site. It was found that only one crash was reported over this area in the past 10 years. The crash occurred at the Brighton Road intersection when a car was turning right from Brighton Road into Edna Street and a following car clipped the right rear corner of the turning vehicle. The crash did not result in any injuries. Based on this, it is not considered that there is any evidence to suggest that there are any pre-existing road safety deficiencies on this road.
60. Overall, it is recommended that the developer be required to undertake an integrated transport assessment at the time of subdivision to ensure that the traffic and transport effects are adequately considered based on a final design of the development. This would need to include an analysis of the Kayforce Road/Hare Road/Edna Street intersection from a safety perspective and make recommendations for improvements. Similarly, the sharp bend adjacent to 1 Edna Street would need to be reviewed to ensure that the current alignment is sufficient to accommodate the increased traffic volumes.
61. It is considered appropriate that the developer undertake any upgrades to external transport/roading infrastructure. The extent of these upgrades should be confirmed following a detailed transport assessment at the time of subdivision.
62. Based on the size of the subdivision, it is recommended that consideration be given to future transportation linkages and potential connectivity. It would appear possible to link the development through to Kayforce Road across the land at 8 Kayforce Road. The splayed road boundary of 8 Kayforce Road would suggest a road connection has been contemplated in this location previously and consideration should be given to ensuring that potential road linkages between the current development site and 8 Kayforce Road are preserved. This could be achieved by reserving a strip of land on the boundary for a future road connection.

GF04: Part 127A Main Road, Fairfield – Rezoning from Rural (hill slopes) to General Residential 1 (GR1)

63. The Council has recently approved a subdivision of the residential portion of the site. Access will be from a private access extending from Main Road, as existing easements were considered prohibitive in terms of creating a legal road. The site is relatively constrained in respect of access, which will likely limit the development yield of the site. This will need to be assessed at the time of subdivision, and the result may be a limit on the overall number of residential sites.
64. Subject to the above, it is considered that the proposed rezoning can be supported from a transport perspective.

GF05 and GF05a: Parts 353 Main South Road, Fairfield (part of) – Rezoning from Rural Residential 2 (RR2) to General Residential 1 (GR1)

65. The Council's Site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 49 dwellings under General Residential 1 Zoning.

66. Several submissions were received in relation to this site, some of which request that the proposed change be rejected because of transportation related concerns. I have reviewed these submissions and summarise them below in Paragraphs 67-72.
67. S92.001 (name withheld) raises concerns with respect to traffic flow on the southern motorway and adverse effects on the efficiency on the wider transport network. It is noted that the operation of the motorway is managed by Waka Kotahi, not DCC Transport. We note that Waka Kotahi have made a submission and did not raise any concerns relating to the impact of the rezoning of this site on the safe and efficient operation of the motorway. S92.001 also considers the public transport services in the vicinity of the site to be inadequate because of the walking distance to the nearest bus stop. The submission considers that this deters people from using public transport and increases reliance on the private motor car instead.
68. Kate Hall queries where road access will be and considers adding more traffic would exacerbate existing congestion issues at the Green Island roundabouts.
69. Lisa Johnson considers that “adding more sections would create more issues and congestion around the 3 Green Island roundabouts” and that “the entrance to the subdivision would sit very close to the entrance to Sunnyvale Sports Stadium, this corner can also be quite dangerous at the best of times without adding more traffic to the area”.
70. Another submitter raises more general transport concerns and mentions that “leg-in shared driveways do not allow sufficient parking for visitors; they create issues with rubbish collection”.
71. Balchin wishes to extend the change so that a single building platform is provided on the remaining part of 353 Main South Road.
72. Another submitter notes that it is not clear where subdivision roading would be located and appears concerned about this due to the potential for roading being located near their property.
73. I respond to these submissions in Paragraphs 74-78, below, and make concluding remarks in Paragraph 79.
74. The concerns raised about safety on the curve in Main South Road have been reviewed by Transport using CAS. The search area spanned from the bridge to outside 319 Main South Road. Over the period 2017-2022 inclusive, a total of four crashes were reported. Two of these crashes resulted in minor injuries and the other two did not result in any injuries. Two of the crash reports noted that ice contributed to loss of control on the curve, another was a loss of control crash with alcohol suspected, and the other crash occurred when a driver was turning right into Sunnyvale Sports Complex and a following driver rear ended the turning vehicle. It is noted that two of the loss of control crashes occurred in 2017 when the posted speed limit was 70km/h. Note that the posted speed limit was lowered to 50km/h in 2019.
75. Overall, the reported crash history does not suggest that there are any significant road safety deficiencies on this section of Main South Road. However, it does suggest that this section of the road can be prone to ice during the winter months, which is likely exacerbated by the dense vegetation on the northern side of the road which has the effect of reducing sunlight hours on the road surface during these periods. While it is not considered that this is currently creating a significant road safety hazard, it would be prudent to ensure that the new road is designed with this in mind. It will be important that the new intersection is located so that it complies with Austroads Guide to Road Design Part 4A Unsignalised and Signalised Intersections. This will need to be assessed and confirmed by the applicant’s traffic engineer at the time of subdivision.
76. In terms of the impacts of the rezoning on the wider transport network, it is important to first come to terms with the scale of development that the rezoning would enable. City Development have advised an addition of 49 dwellings. It is likely that a development of this size would generate in the order of 44 vehicle movements during the network peak hours. Given the already high number of vehicle movements on the surrounding roading network, it is unlikely that this level of traffic would have any significant impact on levels of service of nearby intersections.

77. With respect to the location of roading access it is acknowledged that there may be some uncertainty at this stage. This is not particularly unusual when land is being considered for rezoning. The location of roading is often deferred until the time of subdivision consent once the land has been surveyed and natural landform constraints are better understood. Given the size of the subdivision, I would suggest that it would be prudent for road access to be provided through the development site, linking Severn Street with Main South Road. This would appear possible based on the land ownership status of 46 and 48 Severn Street, but discussion with the administering department (Parks and Recreation) would be required to confirm this. Transport has not initiated this discussion. This should be done by City Development. In any event, it is understood that 48 Severn Street was intended to be specifically set aside for a future roading connection at the time of the Grandvista Plan Change.
78. It is considered that a link road would provide a positive outcome for the transport network by providing a second point of access for the Grandvista Estate, as well as this development. This would allow for enhancements in local traffic distribution noting that all of the houses in Grandvista are currently served by a single access road. The design of the new road will need to be determined following an integrated transport assessment which can be prepared by the developer at the time of subdivision. The assessment would need to consider not only the number of sites being developed on the development site, but also the existing traffic volumes in Grandvista Estate which may use the new route instead of the North Taieri Road route when accessing the city. The new route has potential to be a more attractive and also safer route when accessing the motorway. This will have an effect on the width and design of the new road. This is because motorists would be able to avoid the Severn Street / North Taieri Road / Abbotsford Road intersection which, due to the road alignment and presence of a bridge over the railway line, has constrained sight distances.
79. Overall, subject to the above comments and recommendations, it is considered that the proposed rezoning can be supported from a traffic and transportation perspective. A loop road should be a requirement. The design of the road and intersection location will need to be considered and assessed as part of an integrated transport assessment undertaken by the developer at the time of subdivision.

GF06: 27 Weir Street and Part 1 Allen Road, Green Island – Rezoning from Rural (coastal) to General Residential 1 (GR1)

80. The Council's Site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 32 dwellings under General Residential 1 Zoning.
81. You have advised that no submissions relating to transportation issues were received on this site, and that prior comments can therefore be relied upon. That notwithstanding, I have taken the opportunity to further expand on the previous transport comments.
82. While it is considered likely that transportation issues can be managed, it would be prudent to ensure that an ITA is undertaken at the subdivision stage to ensure that all potential transportation issues are evaluated in detail. This should be included as a subdivision requirement / performance standard.
83. There appears to be two owners of the land within the development area. It will be important to ensure that the required transportation assessment takes a holistic approach, rather than individual assessments being done.
84. The development will necessitate upgrades to the existing transport network. The extent of these upgrades will need to be confirmed pending the results of the ITA. The upgrades will need to be undertaken by the developer(s) as part of a subdivision proposal.
85. There are two main access options for this development site; Allen Road South and Weir Street, both of which connect to Brighton Road.
86. Access to Brighton Road will need to be managed and possibly restricted, given it is a Strategic Road in the Council's transportation network. Access should typically be from Local Roads as that is their primary function.

87. At a minimum, Weir Street will need to be widened and footpath, kerb and channel will need to be constructed along the development site frontage. The intersection of Weir Street and Brighton Road will need to be assessed in the context of additional development traffic. It is likely that the intersection would need to be improved and the speed limit on Brighton Road adjusted. Operating speeds on this section of Brighton Road are likely to be high since land either side is largely undeveloped. There appears to be a boundary issue on this corner which should be resolved at the time of subdivision.
88. Allen Road South is unsealed and is unsuitable to service a residential development of this size. It would need to be upgraded and it is possible that this would require land acquisition to enable road widening. Allen Road South's intersection with Brighton Road is unlikely to be adequate to facilitate any significant increases in turning movements that might arise from this development. This will need to be assessed in an ITA as part of a subdivision application and improvements proposed and undertaken at the developer's expense if deemed necessary.
89. Subject to the above issues being considered in detail by an ITA and resolved at the time of subdivision (which will include upgrades to existing roading infrastructure), it is considered that the proposed rezoning can be supported from a transportation perspective.

GF07: 33 Emerson Street, Concord – Rezoning from Rural (coastal) to General Residential 1 (GR1)

90. The Council's site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 28 dwellings under General Residential 1 and General Residential 2 Zoning.
91. Emerson Street is a Local Road; however, it provides a link between Blackhead Road and Main South Road. Those roads are Collector Roads. According to Mobile Roads, it has an estimated ADT 540vpd where it passes the development site. The ADT increases to just over 1000vpd as it passes Roy Crescent.
92. It is expected that 28 dwellings would generate in the order of 25 vehicle movements in the peak hour and about 260vpd. The traffic would primarily be distributed from Emerson Street to Main South Road or Blackhead Road. Assuming traffic is distributed evenly between the two intersections, it is unlikely that an additional 13 movements at each intersection during the peak hour would create any network capacity problems. However, it is likely that the Main South Road intersection would receive about 80% of the traffic since it is the most direct route into the city. This would indicate that 20 of the movements would occur at the Main South Road intersection. This equates to one extra vehicle every three minutes.
93. It is considered unlikely that the vehicle traffic generated by an additional 28 dwellings would have any significant effects on the capacity of the wider roading network.
94. However, the standard of Emerson Street itself is of significant concern when considering the prospect of reasonably dense residential development as proposed. As it passes the development site, Emerson Street typically comprises a 5.5m wide sealed carriageway with a dashed centre line and painted edge-lines. There is no kerb and channel, nor are there footpaths. The road is adjoined by a steep bank on the development side and slopes down into private property on the other side. There is also no street lighting. The road has a legal width of about 25m, though much of the land within the corridor is very steep and would likely require substantial earthworks and potentially retaining walls in order to make use of the land for roading purposes, such as footpaths and kerbs.
95. It is considered that if 33 Emerson Street was rezoned to General Residential 1, the following would be required at a minimum:
 - Construction of a new footpath, kerb and channel that safely links with existing infrastructure on the northern parts of Emerson Street. This could be problematic given the topography and also noting that there is currently no footpath on the western side of the road until northeast of Thoreau Street (i.e., beyond the frontage of the development site).
 - Installation of street lighting infrastructure in accordance with AS/NZS1158, noting that none presently exists outside the development site.

- A safety analysis to review whether any engineering intervention is required to mitigate the potential for errant vehicles to leave the road on the downhill side.
 - A review of new intersection location(s) and confirmation that compliant sight distances can be achieved and longitudinal gradients in accordance with NZS4404:2010.
96. Overall, whilst the impact of the rezoning on the wider transport network is anticipated to be minor, it is considered that in the absence of any detailed information, Transport does have some reservations around the feasibility of developing this property whilst at the same time ensuring the new residents are provided with appropriate levels of service from roading / transportation infrastructural perspective. These issues are considered to be local to the site and we would be open to discussing these concerns with the landowner to identify potential solutions.

GF08: Part 19 Main South Road, Concord– Rezoning from Rural (hill slopes) to General Residential 1/General Residential 2 (GR1/GR2)

97. The Council's site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 32 dwellings under General Residential 1 and General Residential 2 Zoning.
98. The existing transport network is briefly described in Paragraphs 99-103, below.
99. The site has frontage Main South Road to the south and east, and the Dunedin Southern Motorway to the north.
100. Main South Road (south and east) is a Collector Road in the 2GP. It operates as a key link from the nearby residential suburbs to the Dunedin Southern Motorway. Main South Road to the east operates as the off-ramp from the motorway to Main South Road / Stevenson Road. Hence, traffic is only able to flow from north-south on this road.
101. Mobile Roads suggests an ADT of 1200vpd on the off-ramp section of Main South Road and 6,600vpd on the southern section of Main South Road, between the off-ramp and the motorway on-ramp.
102. The section of Main South Road that runs along the southern boundary of the site has varying cross section. However, it operates as a two-way / two lane carriageway with footpaths provided on both sides. Kerbside parking is provided along the southwestern side of the road. The northern side of the road has some parking, but much of it has painted No Stopping Lines (NSLs) where required to enable unobstructed traffic flow. There are pedestrian zebra crossing facilities and bus stops near the site.
103. It is considered that the transport infrastructure in the vicinity of the site is generally sufficient to support a development of this size. It is not anticipated that any significant upgrades to existing transport infrastructure would be necessitated by the rezoning.
104. Any new roading and intersections would be expected to comply with the Dunedin Code of Subdivision, Austroads Guide to Road Design Part 4A – Unsignalised and Signalised Intersections, and NZS 4404:2010 – Land Development and Subdivision Infrastructure. It is considered that such matters can be addressed at the time of subdivision.
105. In addition, I can confirm that I have reviewed the submission from Waka Kotahi in relation to this site. The submission notes that access from the site to the Motorway will not be legally available, but that an extensive length of the site has frontage to that road. The submission states that this section of the motorway is a high-speed environment, and the sloping nature of the area means that it is characterized by vehicles braking and accelerating. Whilst this is agreed, it is considered that these concerns primarily relate to issues of reverse sensitivity (due to noise generated by the above characteristics), for which this department does not typically advise on. DCC Transport expects that such matters will be considered and assessed by the Council's Policy Planners.

GF09: 41-49 Three Mile Hill Road, Halfway Bush – Rezoning from Rural Residential 1 (RR1) to Large Lot Residential 1 (LLR1)

106. Given the properties mentioned are each only slightly larger than 2000m², it is not envisaged that rezoning these sites from Rural Residential 1 to Large Lot Residential 1 would create any additional subdivision development potential. Rather, it would appear that the rezoning would better reflect the existing make-up of these properties.
107. Hence, whilst the issues raised with respect to traffic/transportation in the Keep Halfway Bush Semi Rural submission are acknowledged, they are not considered significant to the proposed rezoning of 41-49 Three Mile Hill Road from Rural Residential 1 to Large Lot Residential 1.
108. On the basis that the proposed rezoning is unlikely to result in any physical changes to the existing land uses, it is considered that the proposed rezoning can be supported from a traffic and transportation perspective.

GF10: 32 & 45 Honeystone Street – Rezoning from Rural (hill slope) to Large Lot Residential 1 (LLR1)

109. The Council's site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 29 dwellings under Large Lot Residential 1 Zoning.
110. A submission was received requesting that controls requiring consideration around how the local roading network would be maintained during the winter months given the increased number of properties.
111. The Council continually monitors the performance of the network from a maintenance perspective and consideration of future maintenance requirements will be given when the new road is being designed. It is not considered that the proposed development would influence the maintenance schedule to any significant degree.
112. Honeystone Street has a legal width in the order of 12m. Within this corridor, an 8.0m wide carriageway is provided with 2.0m footpaths either side of the road. There are no grassed berms.
113. For a new road with similar operational requirements to Honeystone Street, the Code of Subdivision would require 3.0m grassed berms on both sides of the road. This equates to a legal width of 16.0m being required.
114. It is considered that the new road(s) within the subdivision should be designed in accordance with Table 3.1R of the Code of Subdivision for a residential road serving up to 100 dwelling units (du). This would likely require tapered widening from the new road extending from the Honeystone Street corridor to increase the legal width from 12.0m to 16.0m.
115. From a transport connectivity perspective, it is considered appropriate for the Honeystone Street site to be considered alongside the Wakari Road site(s). Appropriate consideration in this regard would result in a more integrated public roading layout. Specifically, it could allow for Honeystone Street to be extended up to the boundary of 195 Wakari Road and provide secondary access to that site, as well as primary access to the Honeystone Street site therefore providing for dual benefit. It is considered that an additional 29 sites warrants consideration of a secondary access point, particularly in this instance where there is an opportunity to better integrate existing and future neighbourhoods.
116. Based on aerial imagery and contour lines on Council's GIS mapping system, it is noted that there is a reasonably substantial gully that would appear to currently bisect the two areas. It is therefore anticipated that a bridge or similar type of crossing structure will be required for a new road to connect 45 and 32 Honeystone Street with 195 Wakari Road and the remainder of the Wakari Road rezoning area.
117. It is considered that a transportation assessment should be undertaken at the time of subdivision to ensure that an appropriate internal roading layout / design is achieved.
118. Subject to the above, it is considered that the proposed rezoning can be supported from a transport perspective.

GF11 and GF11a: Wakari Road area – Rezoning from Rural Residential 2 (RR2) to General Residential 1 (GR1)

119. The Council's site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 240 dwellings under General Residential 1 Zoning. There is a strip of land along the frontage to Wakari Road that has already been identified for residential zoning but is subject to a Residential Transition Overlay Zone (RTZ) for infrastructure purposes.
120. The original transport comments noted that Wakari Road would need to be upgraded in relation to formation standards, speed management treatments and safety upgrades for active modes of transport. Wakari Road is a Local Road north of Helensburgh Road, but becomes a Collector Road between Helensburgh Road and Taieri Road.
121. We noted that a local area traffic management study would be needed.
122. It was further noted that nearby intersections would need to be analysed and likely upgraded for safety and efficiency reasons.
123. Submissions have been received on this site which relate to traffic and transport. These are summarized below in paragraphs 124-130
124. Blair requests that the zoning be rejected because of increased traffic flow on Wakari Road and their anticipated difficulties getting into and out of their private driveway. The submitter mentions that the road is being used as a bypass for getting to the motorway via Leith Valley to SH1 and that people using the bike park is increasing traffic.
125. Batchelor requests the zoning to be changed to Large Lot Residential 1 instead, due to concerns of high-density development and resultant traffic volumes.
126. Murphy wishes for the change to be amended to ensure that traffic management for future subdivision is managed and emergency services are easily able to access all houses. The submitter is also concerned about the loading of the accessway from Wakari Road, and queries how vehicle access will be managed safely particularly during local emergencies. They also ask where the main road to the subdivision will be located.
127. Similarly, Harris requests a larger minimum site size. They have concerns about the access way serving 191, 189, 187, 185, 179, 177, 171, 169, 163, 161, 165, 167, 173, and 175 Wakari Road. They consider a comprehensive traffic management plan will be required
128. Brewster notes that consideration should be given to maintenance on Wakari Road and Leith Valley in winter with increased residents. Safety for non-motorised road users is of concern to this submitter.
129. Thomas and Greer seek to extend the change into their lot (297 Wakari Road).
130. Kidston seeks rezoning their land at 195 Wakari Road and revoking the current encumbrance on the site. It is understood that the encumbrance relates to a building restriction on 195 Wakari Road to provide a setback from the Bain Reserve, it is not related to transportation issues.
131. I respond to these submissions below, in paragraphs 132-145.
132. The submissions relating to increased traffic flow on Wakari Road are acknowledged. As has been previously noted, Wakari Road would need to be upgraded in order to support the increased demand on the network. This upgrade is not currently planned or budgeted for.
133. The upgrade of Wakari Road will need to include suitable provisions for pedestrians and cyclists, traffic capacity and street lighting.
134. Currently, the formation standard of Wakari Road changes significantly at 205 Wakari Road. East of this property, the formed width of the road reduces and there is no kerb and channel or footpaths, and no space for on-road parking. There are steep banks either side of the road and there is a line of power poles which could create issues with footpath construction and/or road widening. The upgrade of Wakari Road is expected to be a substantial civil construction task which, as noted above, is currently unplanned and unfunded.
135. The position of Wakari Road in the 2GP's Road Classification Hierarchy would also need to be reviewed.
136. It is possible that land acquisition would be required to facilitate a suitable cross section for Wakari Road. This is especially the case northeast of Joshua Place where the road corridor reduces from 20m to 15m.
137. The road between #145 and 183 is reasonably steep with a somewhat unusual alignment near Helensburgh Road, which affects sight distances at that intersection.

138. It is likely that the development would create a need for upgrading of the Helensburgh Road / Wakari Road intersection and the Wakari Road / Taieri Road intersection.
139. Provisions for public transport will need to be reviewed given the size of the development. This will require consultation with the ORC as the body that administers the public transport service in the city.
140. There is already a reasonably notable amount of existing use of the road by people wishing to access nearby cycling tracks. This generates both cycle and vehicular traffic. This would suggest the need to consider construction of cycling facilities.
141. With respect to the design of the internal roading network for the subdivision, it would be appropriate for a structure plan to be developed which includes minimum road design and connectivity requirements. This should include:
 - a. A requirement to link the site with the Honeystone Street mapped area with a road for the benefit of both sites.
 - b. A requirement to provide access to the subdivision through 245 and 297-301 Wakari Road.
142. Road access through 195 Wakari Road is considered beneficial from a strategic connectivity perspective but could be problematic to achieve due to the constrained width of the leg-in and location of existing driveways immediately adjacent. A road access in this location is therefore likely to require the cooperation of neighbouring property owners. This would allow the existing driveways to be absorbed into the new road width which would remove the conflict points next to the new intersection and also create a wider road corridor. This would be of benefit to those existing driveway users because it will remove a portion of privately maintained access therefore reducing their annual maintenance costs. DCC Transport would encourage consultation with these property owners in order to allow for a better result for the new and existing transport network.
143. It is considered that since the development will be able to provide several connection points to the existing transport network, that the concerns relating to emergency access can be easily addressed.
144. Given the multi-ownership of land within the proposed area to be rezoned, it will be important to ensure that the entire area is developed holistically. It would be problematic and would result in poor outcomes if each property was developed individually with little to no regard for how the neighbouring property would be developed. To address this, it is recommended that a structure plan is put in place over the wider area. DCC Transport would be pleased to work with the landowners in order to develop a coherent structure plan for the site.
145. Overall, it should be noted that this development will generate the need for substantial upgrades to the existing transport network, and the detail of these upgrades is not yet fully understood. More work is therefore required to identify the extent of the required upgrades and a funding plan should be developed to ensure the upgrades are delivered in a coherent, fair manner.

GF12: 233 Signal Hill Road (in part) – Rezoning from Rural (hill slopes) to Large Lot Residential 1 (LLR1)

146. The Council's site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 6 dwellings under Large Lot Residential 1 Zoning.
147. The original comments from DCC Transport highlighted significant access issues in relation to development of this site for residential purposes. These are reemphasized below.
148. Firstly, it is not clear how access to a subdivision of this site would be provided. The site has frontage to Thirlstane Street and Winton Street along its north-western and south-western boundaries, respectively. These roads are unformed legal roads, or as often otherwise referred to as 'paper' roads.
149. The Winton Street corridor intersects with Signal Hill Road, however, access in this location does not appear feasible because the land within the Winton Street alignment drops off sharply from the Signal Hill Road formation. Even if access could be practically provided for

vehicles from Signal Hill Road, this road does not have any dedicated infrastructure for non-motorised road users. This is problematic given that this type of infrastructure would normally be expected in a residential zone.

150. To the north, legal access is available from Thirlstane Street via Pleasant Place and Birchfield Avenue. Pleasant Place and Birchfield Avenue have legal widths in the order of 10m and 12m, respectively.
151. The formation of both of these roads is considered inadequate to support any further residential development in their current state. The roads typically support one-way movement of traffic only and there are no footpaths. It is not clear as to the feasibility of upgrading these roads to an acceptable standard.
152. One submitter has taken the opportunity to expand upon these concerns, and notes that the roads are narrow and access for emergency service vehicles is likely to be problematic.
153. Transport considers that these transportation and access related concerns raised by the submitter are valid and are not insignificant issues.
154. Hence, it is considered that unless Transport's concerns in relation to access can be adequately addressed that a rezoning of this site cannot be supported from a traffic and transportation perspective.

GF14: 336 and 336A Portobello Road, The Cove – Rezoning from Rural Residential 2 (RR2) to Township and Settlement (T&S)

155. The Council's site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 5 dwellings under Township and Settlement Zoning.
156. Note that the original site assessment was very high-level, and sites were assessed on a 'cluster-wide' basis in order to make comments on wider effects of increased dwellings on the transportation network. It was noted, however, that consideration was needed over whether improvement to the Weller Street / Portobello Road intersection would be required.
157. The Transport department was contacted by the landowner's surveyor (Terramark) in June 2020 to discuss the likely requirements for the intersection, should the rezoning be approved. The following advice was provided to the surveyors in July 2020 on a without prejudice basis:

- *Weller Street is substandard in its current state. It is significantly underwidth and intersects with Portobello Road at an acute angle. Transport would therefore be unlikely to support any intensification of this road unless the proposal was considered and assessed by a suitably qualified traffic engineer. The traffic assessment would need to ensure that the development can be safely/efficiently accommodated and would need to investigate in detail, potential options for roading upgrades. The assessment will need to investigate intersection design, traffic generation, crash history, as well as other normal components of an ITA. The intersection would likely need to be redesigned so that it meets Portobello Road at a 90-degree angle and the road will need to be widened to accommodate 2-way vehicle movement. All upgrades would be expected to be undertaken in accordance with the Dunedin Code of Subdivision and Development 2010, or alternative up-to-date land development engineering documents accepted by the Council. This includes sight visibility at the intersection (note that because this a public road intersection, the 2GP standards are not necessarily applicable as they apply to private accesses and I recommend you/your traffic engineer assesses against AUSTROADS requirements. Consideration needs to be given for refuse collection, construction traffic, emergency vehicles, courier vans etc. There are various structures within the road in this location that may be affected, this needs to be considered.*
- *At this stage, we consider it appropriate to consult with the property owners fronting Weller Street that may be affected by the proposal. At this stage, I am thinking this would include, but not necessarily be limited to #330, 332A, 333, 332 Portobello Road and potentially 486 Highcliff Road, given the proposal may affect their ability to access*

their properties via their legal road frontage. Beyond that, there may be various easements/rights of way within the site. Transport would typically require that all access complies with 2GP requirements, or landowner approval may be required. There may be an opportunity to upgrade the private way formation to a road standard and vest in DCC as legal road. This will require further discussion.

- *We expect that the upgrades comply with Code of Subdivision standards in the first instance, but would be open to discuss any constraints and consider solutions from a suitably qualified person i.e., a traffic engineer.*
- *As above, without prejudice.*

158. Subsequently, it is understood that the landowner engaged GHD to provide traffic advice in respect of the development. GHD provided a report to the landowner in August 2020. Whilst the report was provided to Transport, it is unfortunate that this department did not have an opportunity to review the report in detail and then provide more site-specific comments prior to notification of Variation 2.

159. A notable number of submissions have been received on this proposal which raise concerns with respect to traffic safety. This is primarily in relation to the formation standard of Weller Street, which would need to be relied upon to access the subdivision.

160. The Transport section of the GHD report is noted as being high level under Paragraph 6. Hence, there are important detailed matters which would need to be considered before being able to determine whether rezoning of the site is acceptable from a transport perspective. The following comment is specifically noted from the GHD report:

“Given the level of constraints at this location, as outlined above, further design work is required in order to determine if / how design and safety issues can be mitigated to allow discussion and agreement with the Council” (pp. 9 Weller Street Planning Advice Letter, GHD, August 2020).

161. Since being able to secure safe and efficient access to the new sites is an integral component in the development of any residential site and noting that the statement above from GHD confirms that further work is required to determine whether this is possible, it is considered that further design work and consideration of potential options is necessary before DCC Transport was able to provide its support to the proposed rezoning.

162. While it is acknowledged that the subdivision consent process provides an appropriate platform to consider detailed matters such as vehicle access, it is considered counterintuitive for the Council to rezone land if it was not satisfied that it could be developed in accordance with the applicable zoning.

163. It is therefore considered necessary for further design work to be undertaken to demonstrate to Council what outcomes are actually achievable in respect of the required upgrade of Weller Street. For instance, details around the achievable typical road cross-section for Weller Street, including:

- Road widths
- Footpath provision
- Required earthworks and height of retaining structures
- Gradients
- Effects on access to existing properties
- Confirmation of achievable intersection sight distances and assessment against Austroads
- Turning facilities
- Parking
- Lighting

164. While these types of matters would normally be considered at the subdivision stage, Transport remains unconvinced that an acceptable outcome is possible based on the information provided to us to date.

GF15, 16 and 17: 23, 25 McAuley Road, 1693, 1687 & 1661 Highcliff Road, Portobello – Rezoning from Rural Residential 2 (RR2) to Large Lot Residential 1 (LLR1)

165. The Council's site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 28 dwellings under a mix of Large Lot Residential and Township and Settlement Zoning. It is understood that this includes all of the land within GF 15 and GF 16. GF 17 is proposed to be rezoned from Rural Residential 2 to Recreation and hence, no dwellings would be enabled on this site.
166. The original DCC Transport comments noted that it may be challenging to achieve satisfactory access from Highcliff Road, due to the tortuous road alignment and topographical constraints. We noted that consideration of connectivity would be required at subdivision stage. Further, increased development density may generate the need for isolated barrier and signage improvements. Upgrades / extension of footpaths to connect the development sites to pedestrian infrastructure within existing settlements will be required.
167. Considering GF 15 and 16 as a single site, it is noted that it has frontage to Hereweka Street and McAuley Road, and that it is severed by Highcliff Road. Highcliff Road and Hereweka Street are formed roads. McAuley Road is unformed at the southern end, where it extends from the Seaton Road formation, but is formed to a single lane gravel road standard at the northern end where it extends from Beaconsfield Road. All roads surrounding the development site have a posted speed limit of 40km/h. All roads are local roads, except for Highcliff Road, which is a collector road.
168. It is considered unlikely that access would be obtained from Hereweka Street to the remainder of the area on the eastern side of Highcliff Road. This is because the foot of a very steep bank is situated about 20m into the site from Hereweka Street, which would make it untenable to provide for a road link from Hereweka Street to Highcliff Road. This bank is depicted in the snippet below.



169. It may still be possible to create new house sites fronting Hereweka Street. If this is proposed, it is likely that part of the development site would need to be vested in Council as road in order to, at least, match the legal corridor width outside 8 Hereweka Street. Note that there are no footpaths on Hereweka Street but further development on the street would likely increase pressure for the Council to construct footpaths that link in with existing infrastructure in Portobello. There is limited space near the intersection with Portobello Road to achieve this and the siting of existing buildings means that it is not possible to increase the legal road width in this location. It may be possible to create a facility on the eastern side of the road (shown on left hand side of snippet below) with suitable crossing points given the constraints. The developer may be required to upgrade Hereweka Street to a better standard for pedestrians and cyclists and this may need to include carriageway widening in places. Street lighting would need to be reviewed and potentially upgraded. Note the presence of the existing tourist park

opposite the site, which would suggest the road already has some level of traffic loading outside a standard low-volume residential road. Mobile Roads suggests an estimated ADT of 250vpd near the Portobello Road intersection.



170. Highcliff Road between Seaton Road and Portobello Road has an estimated ADT of 600vpd. There is a footpath on the south side of Highcliff Road from Portobello Road up to the Ridley Road intersection – some 170m northeast of the development site. To the south of Ridley Road, the standard of the road reduces where no footpaths are provided and there is also no kerb and channel. The Highcliff Road carriageway is narrow, in places reducing below 5.0m. It has painted edge lines and a centre line on the curve outside #1709.
171. Residential development on the site would require footpath extensions to link the site with existing footpath infrastructure near Ridley Road. This would provide safe pedestrian access to Portobello and would help to manage vehicle operating speeds.
172. It appears that some sections of the road present topographical constraints for footpath construction and would likely require construction of retaining walls or creation of suitable batter slopes within the site, but this has not been investigated in detail. It is considered that the width of the road is such that it would not be appropriate to reduce the width of the carriageway any further.
173. Provisions for access would need to be considered at subdivision stage. The unformed section of McAuley Street appears problematic to be formed as a new intersection due to constrained sight distances to the north up Seaton Road. Land acquisition from 47 Seaton Road would solve this problem. It is not clear whether the unformed section of McAuley Street would be used for access and hence, this has not been investigated any further at this stage. Moss Street and the northern parts of McAuley Road are currently substandard and are not suitable for serving residential development in their current form. It is considered that these matters can be addressed at the time of subdivision.
174. Notwithstanding the above, it is considered that the rezoning represents a natural extension to the south of the existing Township and Settlement Zone near Portobello. Hence, provided that urbanised transport infrastructure is provided by the developer to connect with existing infrastructure in that zone, and suitable access is provided to the subdivision, it is considered that the proposed rezoning can be supported from a traffic and transportation perspective. This is particularly the case noting the reasonably low-density form of development which is largely due to the site's topography having an impact on the overall achievable dwelling yield per ha.

RTZ2: 87 Selwyn Street – Rezoning from Rural Residential 2 – Residential Transitional Zone (RR2 (RTZ)) to General Residential 2 (GR2)

175. The Council's site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 50 dwellings under General Residential 2 Zoning.

176. The original transport comments identified significant issues with the rezoning of this site.
177. It has already been noted that rezoning of the site is predicated on the developer being required to upgrade the Selwyn Street bridge over Lindsay Creek, and the road between the bridge and the development site.
178. It is likely that the bridge would need to be widened in order to safely accommodate pedestrians and cyclists, as well as vehicular traffic, and improve safety at the curve. Visibility is currently constrained due to vegetation. The condition of the existing bridge would need to be investigated by an engineer in the context of additional traffic movements, including use by heavy traffic during construction. They will need to confirm that the bridge can accommodate the additional loading.
179. Footpaths would need to be constructed on the north side of the bridge and link into existing pedestrian infrastructure. It is considered that due to the constrained legal width, topography, and utility poles, that footpaths could be difficult to provide however it is understood that the current landowner / potential developer's surveyor has considered this and that it is possible. Drainage provisions would need to be investigated.
180. South of the bridge, Selwyn Street has an 8m carriageway with footpaths on both sides. It is possible that current 'on street' parking provision may need to be removed in the event that this is found to unacceptably obstruct safe and efficient traffic flow. This would be monitored and only considered if necessary, following on from the future development of the site – should the rezoning be agreed.
181. Submissions have been received which relate to transportation matters. These are summarized below in Paragraphs 182-185.
182. Hyland wishes for provisions to be included to enable good walkway/roadway connections with the existing communities in Liberton/Pine Hill (potentially off Truby King Crescent /Croydon Street). A walking passageway would be sufficient and any streets within the development should follow contours as much as possible, avoiding excessive steepness.
183. Dakin seeks rejection of the proposed rezoning due to traffic concerns.
184. Heal and van Hale seeks rejection of the change due to concerns relating to unsuitable access and roading. They note that Selwyn St is narrow, and several times per year it is dangerously icy, impassable at the bridge and above. If mitigated by another approach, they consider that North Rd is nonetheless already congested at peak hours.
185. Wright seeks also seeks rejection of the change due to broad traffic concerns.
186. I respond to these submissions below in Para 187-191.
187. It is considered that the concerns relating to additional traffic and the unsatisfactory nature of the existing roading network are valid and have been noted by DCC Transport already.
188. It is therefore emphasized that the developer would be required to address these issues and implement suitable solutions. It is considered appropriate for the developer to undertake an ITA by an independent transport planner / traffic engineer at the time of subdivision to ensure that the effects of the development on the transport network are properly considered and adequately mitigated. As above, this is likely to require widening of the bridge and also the road carriageway north of the bridge, and construction of suitable pedestrian facilities with adequate drainage.
189. The ITA will also consider the internal design of the new roading network, and consideration will need to be given as to the potential linkages from the development to other parts of the existing transport network.
190. We are supportive of the suggestions from Hyland which suggest that connections should be made from the existing communities of Liberton / Pine Hill via either a walkway or a road. It is considered that the developer should be required to investigate the potential for these connections, as it is currently unclear how this could be achieved.
191. Overall, subject to:
 - a. An ITA being undertaken which evaluates the transport effects of the development,
 - b. Suitable transport infrastructural improvements being identified and implemented at the developer's expense,

- c. Consideration of alternative connection points to reduce the reliance on Selwyn Street and enhance connections for pedestrians and cyclists and improve general inter-neighborhood connectivity, and
- d. A suitable internal road network being designed,

It is considered that the proposed rezoning can likely be supported from a traffic and transport perspective.

RTZ1: 30 Mercer Street Kenmure – Rezoning from Rural (RTZ) to General Residential 2 (GR2) and RTZ3: 13 Wattie Fox Lane – Rezoning from General Residential 1 (GR1) and Rural (RTZ) to General Residential 1 (GR1)

192. The Council's site assessment report from Appendix 6 of the Section 32 Report suggests an approximate feasible capacity of 79 dwellings under General Residential 2 Zoning, which is an increase of 40 dwellings above what is estimated to be feasible under General Residential 1 zoning.
193. The existing DCC Transport comments highlighted that access could be problematic for this site. We noted that at least two accesses to the subdivision would be required. We noted that Barr Street appears to be the only viable option for vehicle access since the leg-in to Mercer Street is width constrained. It is also noted that Mercer Street is unlikely to be conducive to significant traffic increases, particularly noting that Balaclava School is accessed from that road.
194. In terms of wider transport effects, it was noted that there were plans to construct a roundabout at the Barr Street / Kaikorai Valley Road intersection and additional works planned at the Kenmure Road intersection. The roundabout is anticipated to be constructed in the NLTP2 (2024-2027). Note that NLTP2 is yet to be finalized and would also be subject to funding applications and support for local share from DCC. Hence, the project has not been funded to date which is likely to influence the timing of this development.
195. Submissions have been received on this site which raise transport concerns. These are summarized below in Paragraphs 196-199.
196. McKay seeks an amendment to the change to:
 - a. Limit the number of sections accessing Wattie Fox Lane due to congestion concerns at Barr Street / Kaikorai Valley Road / Kenmure Road, and
 - b. To ensure appropriate roading infrastructure, which in their view should include a road connection to Kaikorai Valley Road and upgrading of Wattie Fox Lane to legal road standard with footpaths, street lighting and provision for refuse collection.
197. Hall seeks to remove the change unless the site is restricted to a maximum of 40-50 sections based on concerns around the transport network. He considers a second access to the site should be required. Like McKay, Hall also has concerns around rubbish collection and also pedestrian access.
198. Yang seeks to remove the change unless another access is provided into Wattie Fox Lane and Wattie Fox Lane is vested in Council.
199. Perry-Ellison seeks that the change be rejected based on various transportation related concerns, including congestion, dwelling yield, lack of secondary access connections and refuse collection.
200. I have considered these submissions and respond in Paragraphs 201-208.
201. Firstly, I agree with the submitters concerns that relate to a lack of secondary access points to the subdivision. It is considered that the number of dwellings being considered for development would necessitate at least two connections to the existing transport network. This would improve traffic distribution and reduce pressure when compared with only having one access. It is considered that a loop road should be provided which connects Barr Street with Kaikorai Valley Road. This would need to be carefully designed and considered to ensure the loop was not used as rat run.

202. It is unclear where a connection to Kaikorai Valley Road could be achieved. There is a row of industrial sites between the development site and Kaikorai Valley Road (529-561) that are already developed. It therefore does not appear possible to bring a road through any of these sites.
203. A more viable option for access to Kaikorai Valley Road could be to obtain access through the neighbouring site at 565 Kaikorai Valley Road. This site currently carries mixed zoning of rural and industrial and appears largely undeveloped. It is considered that further consideration is required to understand what is possible in terms of achieving a secondary access point to the existing transport network.
204. Secondly, I consider that the concerns relating to refuse collection can be solved relatively simply through construction of a suitably designed roading corridor. This would allow for refuse to be collected from within the subdivision as is the case for any other subdivision containing new public roading infrastructure. On that basis, it is considered concerns related to refuse collection can be managed through suitable engineering design of the roading.
205. Thirdly, I agree with submitters concerns relating to the standard of Wattie Fox Lane. I consider that it would be necessary to demolish the existing dwelling at 127 Wattie Fox Lane to enable a wider road corridor to be created to access the subdivision. It is understood that 127 Wattie Fox Lane is within the control of the developer. For a development of this size, a minimum corridor width of 16.0m would be necessary. The road would need to be constructed to Council's standards for a legal road and vested as part of a subdivision. This would include footpaths and street lighting.
206. The location of Wattie Fox Lane is considered to be potentially problematic from a traffic engineering perspective and needs to be considered further. This is because it is very close to the Kenmure Road / Barr Street intersection. This could create efficiency problems that would need to be carefully considered. For example, if priority is given to Kenmure Road instead of Barr Street, queues will form at the new limit line which could block the subdivision entrance.
207. With respect to concerns raised relating to congestion, the applicant will need to engage a reputable and experienced transport engineer to undertake an ITA. In particular, the ITA will need to consider the design and location of the new intersection, and how this will safely integrate with the existing intersections nearby. Concept designs for Kaikorai Valley Road / Barr Street intersection have been developed but these may change depending on traffic volumes from this development. The transport engineer will need to consult with DCC's intersection designers to achieve a coordinated, acceptable outcome.
208. Overall, it is considered likely that a development of this size could have an adverse effect on the operation of the transport network unless significant improvements are undertaken, and a suitable design is adopted. The new entrance serving the subdivision from Barr Street would need to be assessed and suitably designed. Additional road access points to ease pressure at Barr Street will be required. Unless a roundabout at Kaikorai Valley Road / Barr Street is installed, the development would exacerbate existing issues at this intersection. Since the upgrades to this intersection are currently unfunded, and hence the timing of any upgrades is unknown, a conversation between the developer and the Council is likely to be necessary to allow for coordination between the two projects including agreement regarding the apportionment of the necessary funding.