SECOND GENERATION DISTRICT PLAN

Variation 2 – Additional Housing Capacity
Part 3 – Sites Proposed for Rezoning

Appendix D
Supporting Information

July 2022

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Evidence on Transport

July 2022

BEFORE THE VARIATION 2 HEARING PANEL

IN THE MATTER	of the Resource Management Act 1991
AND	Variation 2 to the proposed Second Generation Dunedin City District Plan (2GP)

STATEMENT OF EVIDENCE OF TREVOR WATSON FOR DUNEDIN CITY COUNCIL

Dated 07 July 2022

QUALIFICATIONS AND EXPERIENCE

1. My name is Trevor Watson.

2. I am employed by the Dunedin City Council ("the Council") as a Contractor within the Transport Strategy group. In this role I am providing support, oversight and guidance to the officers who provide the Transportation input to both Resource Consent applications and related Transport Planning Policy matters as they relate to both policy development and related appeals.

3. I hold a both Bachelor of Science in Town Planning Studies and a Diploma in Town Planning from the University of Wales Institute of Science and Technology, together with a Diploma in Management Studies from the South West Provincial Employers. I was previously a Member of both the Royal Town Planning Institute for 30 years and also a Member of the Institute of Management for some 10 years prior to taking a career break in 2019. I have over 30 years professional experience in total, comprising in the order of 20 years in the UK and now 10 years in New Zealand. A have been employed in Local Government for the whole of my career. My final posting in the UK was as Head of Planning Services at a central England authority. Since immigrating to New Zealand in 2012, I worked for Auckland Council as a Planning Policy Team Leader from 2012 – 2018. Following a short career break, I have been employed as a Contractor with Dunedin City Council since November 2019 on a part time basis, as set out above.

4. I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note. 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 AND OVERVIEW

5. My evidence relates to submissions on transportation matters. My evidence also relates to assessing sites with respect to transportation matters.

6. My former colleague, Logan Copland, prepared a large amount of the transportation evidence for this hearing (of which I had oversight) but has recently left the Council. I am grateful for the hard work and detailed information and analysis that he has put into this evidence.

7. My evidence is contained in three memos, one dated 15 March 2022, one dated 31 March 2022, and the third undated but relating to general submissions and completed on 30 March 2022.

CONCLUSION

8. It is my opinion that the information within these memos is correct.

DATED this 07 day of July 2022

Trevor Watson
Contractor
Transport Strategy Group
Dunedin City Council

VARIATION 2: REQUEST FOR COMMENTS GREENFIELD REZONING SITES

GENERAL SUBMISSIONS ON GREENFIELD GROUP OF CHANGES (COMMENTS BY 11 MARCH)

All greenfield group of changes relating to Transportation

1. The following submissions have been received that relate to the entire greenfield group of changes. They are not specific to specific sites but apply broadly to all greenfield sites. General submissions relating to transport:

    - S177.008 (Generation Zero) – remove greenfield rezoning areas as they are restrictive in the transport choices they enforce as car/motor vehicle transport is required.
      Response: We support the inclusion of sites that are located close to existing services and provide for a variety of Transport options to future residents, whilst recognising the need to enable additional housing capacity through some greenfield rezoning.

    - S184.002 (Public Health Association of NZ Otago-Southland Branch) – retain general intensification (greenfield) provided that Public Transport/Active Transport (PT/AT) has been accounted for in the choice of proposed development locations, especially Greenfield development.
      Response: As per response to S177.008 above.

    - S176.001 (Angelo) – retain rezoning to residential on greenfield sites provided that the following outcomes are met: good connections to public transport
      Response: As per response to S177.008 & S184.002: - we support sites that are zoned on the basis that they have good access to public transport / enable travel choices.

    - S16.001 (Shannon) – remove changes which extend residential zoning over greenfield land due to concerns regarding transport emissions
      Response: We support sites that are zoned on the basis that they have good access to public transport / enable travel choices, which will contribute towards reducing transport emissions.

    - S122.004 (Dowden) – Amend rules so that all new dwellings built in General Residential 1 zone or Township & Settlement zone must have “ok” or better access to public transport accessibility by DCC criteria.
      Response: We support sites that are zoned on the basis that they have good access to public transport. (Note:- Our understanding is that this was one of the criteria applied by yourselves (CD) in considering the suitability of sites for development as part of the preparation of Variation 2?) .

    - S125.005 (Bus Users Support Group) – Remove rezoning of land to General Residential 1 zone or Township & Settlement zone unless all new dwellings in the new zones are able to meet the following standard for walking distance to bus stops, through optimal walking route layout or bus route extensions: Any new dwelling to be within 800m of a bus stop or 1200m of a bus stop with a rapid service
      Response: As per response to S122.004 above and accompanying note.

    - S235.001 (Waka Kotahi) – Retain the approach in Variation 2 of 'filling gaps' distributed across a wider area as it provides the opportunity to utilise existing resources and infrastructure and is likely to result in a lesser impact or create a significant change in

demand on infrastructure at specific points or locations including within the State Highway network.
Response: If I am understanding the submissions details correctly – then support**.** As I believe that 'filling gaps' refers to rezoning larger pockets of land within existing residential areas, as opposed to large scale extensions to the urban zone (or commonly referred to as 'urban sprawl'). From a transport perspective, increasing density in existing residential areas helps to make better use of existing transport infrastructure and provides new residents with better access to walking, cycling and public transport services. This typically reduces the demand of new development on the network by reducing reliance on private motor car, thereby increasing network resilience, and also reducing development costs on a per unit basis.

- S235.003 (Waka Kotahi) – Add rules for greenfield rezoning areas that are adjacent to a state highway to require that access is achieved from roads other than a state highway.
  Response: Neutral. It is considered that if access is proposed onto a State Highway, or if a development is occurring adjacent to a state highway, that this would be assessed through the resource consent process, at which time Waka Kotahi would likely be considered an affected party. In that regard, see note 6.6.3A from the 2GP. In the case of a subdivision (which is the most likely type of resource consent in respect of greenfield sites), this would at a minimum, be a restricted discretionary activity and the Council is able to consider effects on the safety and efficiency of the transport network. This would extend to the effects on the state highway network, and it is therefore expected that existing planning mechanisms already provide the control that is required to ensure effects on the state highway network are appropriately considered through the subdivision consent process. We do note, however, that Rule 8.6.3.b of the Christchurch District Plan states "Access shall not be to a state highway, limited access road or across a railway line"

  In the case of limited access roads (LARs), Waka Kotahi's approval would already be required for any new accesses or changes to existing accesses.

Note 6.6.3A - General advice

1. Approval for any work in a road, including the establishment of access to properties, must be obtained from the relevant road controlling authority. Under section 317 of the Local Government Act 1974, the Dunedin City Council is the road controlling authority for all in roads in the city, with the following exceptions:
   a. state highways are under the control of the NZ Transport Agency (NZTA), unless the NZTA has delegated control to the Dunedin City Council.
   b. government roads are under the control of the Minister of Transport.
2. Under section 51 (2) of the Government Roading Powers Act 1989, the written permission of the NZTA must be obtained prior to the commencement of any work on any state highway. Early consultation with the NZTA should be undertaken for subdivision or development proposals adjacent to, or seeking access to, state highways.
3. Where the state highway has been declared a limited access road, approval from the NZTA is required for new accesses or changes to existing accesses. The objective of this control is to protect the operation of state highway from uncontrolled property access that can affect the safety, efficiency, functionality and level of service of the state highway. Limited access roads are most commonly in areas with a heightened development pressure. The NZTA should be consulted initially with respect to development along limited access roads.

- S187.010 (Dunedin City Council) – amend the assessment rules for subdivision and multi-unit development which enable consideration of "effects on efficient solid waste management" and such further, alternative, or consequential relief as may be necessary to fully give effect to this submission. Specifically, submitter is concerns with

the safety and efficiency of the transport network, where bins obstruct accessways and carparks, topple onto the road, or cause road congestion (Objective 6.2.3).
Response: Support – the suggested amendment is considered appropriate in order to manage potential effects on the transport network, caused by an accumulation of a large number of bins on public footpaths/roadside.

- FS184.479 (ORC) – support OS122.004 to facilitate access to public transport
  Response: As per response to OS122.004.

- FS184.482 (ORC) – support OS125.005 in part so as to facilitate access to public transport.
  Response: As per response to OS125.005.

- FS184.500 (ORC) – support OS184.002 as providing for active modes of transport, and access to public transport, are important in planning developments.
  Response: As per response to OS184.002.

- FS226.12 (Southern Heritage) – support OS176 and only rezone residential on greenfield sites provided good connections to public transport are present.
  Response: As per response to OS176.001.

DELIVERABLES

2. Please review the above submissions and provide comments with respect to transportation.

DUNEDIN CITY COUNCIL | kaunihera a-rohe o Ōtepoti

Memorandum

TO:	Bede Morrissey, Policy Planner, City Development
FROM:	Logan Copland, Trevor Watson, DCC Transport
DATE:	31 March 2022
SUBJECT:	**VARIATION 2: TRANSPORT RESPONSE TO REQUEST FOR COMMENTS ON GREENFIELD REZONING SITES – REJECTED SITES**

BACKGROUND

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 brief assessment of each 'rejected' site with a view to identifying potential transport issues associated with them.
3. Transportation infrastructural issues have also 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.

COMMENTS ON THE PREVIOUSLY REJECTED SITES

RS170: 103, 105, 107 Hall Road, Sawyers Bay – Rezoning from Rural Residential 1 to some form of Residential zoning

1. City Development's memo to DCC Transport indicates that the site would be able to accommodate approximately **23** dwellings at Township and Settlement Zoning (400m²). The current zoning is Rural Residential 1.
2. The site was originally rejected because it was considered that development of this site will exacerbate downstream wastewater overflows.
3. FS256 raises concerns with respect to increased traffic stress to a small bridge. It is presumed that the bridge to which this statement refers is that located on Hall Road, adjacent to 41 Hall Road. The submitter is also concerned with the "danger posed by a blind corner". It is presumed that the corner to which this statement refers is that located adjacent to 105 Hall Road.
4. I note that the carriageway over the bridge described in Paragraph 3 is in the order of 7.0m wide and a footpath is provided on one side. There is also excellent forward sight visibility. It is not considered that the development would create any noticeable concerns with the bridge from a traffic capacity perspective. However, from a structural perspective, there may be limitations to the types of vehicles that can cross the bridge. Since this is a residential development, this is only likely to be a potential issue during the construction phase, when heavy vehicles will need to access the site for civil and house construction. It is considered that this can be managed as necessary and would be unlikely prohibit rezoning of this property to enable a relatively small number of new house sites.
5. With respect to the 'blind corner', it is considered that this could be resolved relatively easily as part of a road upgrade. This could involve vegetation clearance and curve widening in the location shown below. This may also require vesting of part of the development site as road.

6. The most concerning aspect is the intersection between two private drives within legal road and the end of the Hall Road formation, shown below. Any increase in traffic usage at this intersection will require careful consideration by a suitably qualified and experienced traffic engineer to identify a solution that is safe. This is considered to be the main transport related issue relating to residential development of this site.

7. Note also that the legal width is constrained to only 12m further north-west. It is likely that road widening and upgrading would be required to facilitate residential development. Due to topography, this would have to occur on the southern side and would require vesting of part of the development site as road to achieve a minimum 15m reserve width.
8. The formed section of Hall Road is a Collector Road with a 15m wide reserve width. It has an 8m wide sealed carriageway. It is expected that this carriageway width could accommodate the additional vehicle traffic generated by 23 new house sites.
9. The road has a footpath on both sides from the Stevenson Avenue intersection up to 39 Hall Road, where the western footpath terminates, leaving a footpath on the eastern side of the road only beyond this point. Additional residential development may increase pressure for the Council to extend the western footpath up to the development site – a length of about 550m.
10. Hall Road provides good access to SH88 and a roundabout is provided at the Stevenson Avenue / Station Road intersection. It is unlikely that traffic generated by an additional 23 dwellings

would have a noticeable impact the safe and efficient operation of nearby intersections. However, it should be noted that the Station Road / Sir John Thorn Drive intersection is managed by Waka Kotahi as Road Controlling Authority, and confirmation that they are comfortable with the additional development traffic passing through this intersection should therefore be sought.

11. As above, access to the development site would need to be considered in more detail at the subdivision stage. This should be done as part of an Integrated Transport Assessment submitted as part of a subdivision consent.

RS193: 177 Tomahawk Road – Rezoning from Rural to General Residential 1

12. City Development's memo to DCC Transport indicates that the site would be able to accommodate approximately **135** dwellings at Township and Settlement Zoning (400m²). The current zoning is Rural.
13. The site was originally rejected because stormwater discharge from the site is complex, and would likely require discharge into the Tomahawk Lagoon. This raises concerns relating to water quality and acceptability to iwi, which would likely mean that discharge consent from ORC would be challenging to obtain.
14. The site has frontage to Tomahawk Road and Gloucester Street. Tomahawk Road is a Collector Road and Gloucester Street is a Local Road.
15. Gloucester Street is a no exit road serving a handful of properties. It has a legal width in the order of 12m from Spencer Street up to the first sharp curve. The carriageway is about 7.5m wide with footpaths on both sides. Past the curve, there are no footpaths. For a road serving between 1-20 dwelling units (du), NZS4404:2010 requires a 15m wide reserve width with a 5.5-5.7m wide carriageway and footpaths and berms on both sides. Consideration would need to be given to on-road parking. Gloucester Street does not meet this standard because there are no berms and the footpath on the northern side is too narrow.
16. The road intersects with Spencer Street and Tomahawk Road which forms an unusual intersection alignment. Additional traffic volumes at Gloucester Street could create efficiency issues for cars trying to exit Spencer Street. The intersection would need to be reviewed and potentially upgraded with increased traffic volumes.
17. Submission FS34 supports the rezoning of the site subject to Gloucester Street being widened to 'current specifications' to allow for future traffic requirements. The submitter notes that they may apply to develop the end of their farm (address not supplied) and if it is to be subdivided then Gloucester Street would not be wide enough to support the increased traffic volumes. The submitter also notes that Spencer Street is too narrow for its current traffic volume but does not appear to suggest that Spencer Street should be widened also.
18. As per the assessment above, it is agreed that Gloucester Street does not strictly comply with NZS4404:2010. However, it should be noted that the formed carriageway is wider than required. It is considered that further investigation / transport assessments should be provided by the proposer which specifically reviews the standards of the surrounding affected roads as a result of the proposed rezoning. Note that I consider that it would not be acceptable to develop this number of houses with a single point of access, and hence, the ability for Gloucester Street to accommodate additional development traffic is a key issue to be resolved from a transport perspective.
19. I note that there also does not appear to be any potential for widening of Gloucester Street due to the location of existing buildings on adjacent properties. The titles of adjacent properties should be reviewed to see if there are building line restrictions registered which could allow for road widening.
20. Tomahawk Road has a suitable cross section to absorb additional traffic volumes. However, there are known speed issues on this road. The likely point of site access is located near a curve which will have implications for sight distances. An ITA would need to be undertaken by the

developer to assess these matters. This may need to include traffic modelling to review impacts of development traffic on localised intersections. The ITA would also need to consider how active road users such as pedestrians and cyclists would be safely provided for.

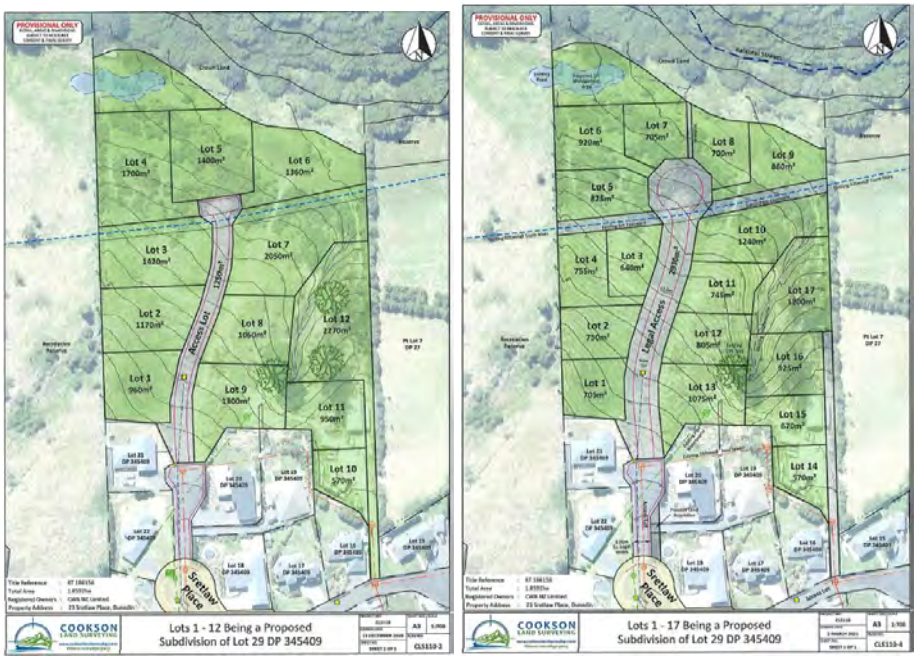
RS161: 210 Signal Hill Road – Rezoning from Rural to Large Lot Residential or Rural Residential

21. City Development's memo to DCC Transport indicates that the site would be able to accommodate approximately **23** lots at Large Lot Residential 1 zoning (2000m²) and 13 lots at Large Lot Residential 2 (3500m²) zoning. However, a structure plan has been provided by the submitters and if this was adopted, there would be total of **7** lots. To ensure a robust analysis, a total capacity of 23 lots has been used for this assessment.
22. The site was originally rejected because it was subject to SNL overlays and was considered inappropriate for residential development due to the significance of landscape values.
23. The site has frontage to Signal Hill Road. Signal Hill Road is a Collector Road. Mobile Roads suggests an estimated average daily traffic (ADT) of 500 vehicles per day (vpd). The legal width is in the order of 12m. The carriageway is in the order of 7.25m wide with painted edge-lines. There are no footpaths, with these terminating to the west of the site boundary.
24. It is considered that the rezoning would have only an insignificant effect on the wider transport network because the quantum of development being considered is relatively small.
25. That said, Large Lot Residential zoning may result in a density where residents would expect urbanised transport infrastructure to be provided which is currently not in place, such as footpaths. However, this would be best determined at the time of subdivision once the final density per hectare is known. This is because if the density is sufficiently low, it may be acceptable to provide a suitable shoulder on Signal Hill Road for pedestrians to use instead of a footpath. It can be seen from the below Google Streetview image that there is a steep embankment and utility poles which could make building a footpath difficult, if that was deemed necessary. Hence, to ensure the option is available, it is recommended that, prior to rezoning, the appellant be required to confirm that there are no insurmountable constraints that would prevent footpath construction linking the development site with the existing footpath kerb and channel outside 188 Signal Hill Road. This would then allow the decision over whether footpath construction is actually required to be appropriately deferred to subdivision stage, as Council could then have confidence that options are available to address pedestrian connectivity.

26. Aside from this, it is considered that the remaining transport issues are relatively minor and could be adequately managed at the time of subdivision consent.

RS110: 23 Sretlaw Place / 118 Brockville Road – Rezoning from Rural to General Residential 1

27. City Development's memo to DCC Transport indicates that the site would be able to accommodate approximately **32** lots at General Residential 1 zoning (2000m²). However, the submitter has prepared two structure plans: one containing **12** lots and the other containing **17** lots. The current zoning is Rural. These two plans are copied below.



28. The site was originally rejected because the original request to rezone the site was received from a potential (unsuccessful) purchaser, so was not progressed.
29. Submissions received relating to transportation matters are primarily concerned with increased traffic and maintenance of the existing private accessways.
30. Plan CLS110-2 (left) shows 3 lots accessed over 18 Sretlaw Place and 9 lots accessed over 25 Sretlaw Place, both of which appear to be shared access lots.
31. Plan CLS110-4 (right) shows 4 new lots access over 18 Sretlaw Place and 13 new lots accessed over 25 Sretlaw Place, and hence, is essentially an up-scaled version of CLS110-2.
32. There appears to be 4 existing users of the access over 25 Sretlaw Place and 10 existing users of the access over 18 Sretlaw Place. Hence, the development could increase these numbers to up to **17** over 25 Sretlaw Place and **14** over 18 Sretlaw Place.
33. These access lots are not of a standard that Council would accept to adopt as legal roads. For this to happen, they would need to be widened/upgraded to Code of Subdivision standards as part of a subdivision and vested back to the Council as legal roads. This would require agreement from other owners/users.
34. Increased use of these access lots of private access-ways to the numbers being contemplated would be contrary to recent policies notified relating to number of lots accessed from a private way (where it is suggested that an access-way serving more than 12 sites should be made a legal road).
35. Note that 118 Brockville Road, whilst not being considered for rezoning at this time, has frontage to Charters Street. The radius boundary corners would suggest that a road or accessway has been previously contemplated in this location. Use of this as a new intersection could present issues due to the proximity to Colquhoun Street. This would need to be assessed as part of an ITA in support of a subdivision consent. Further, the corridor is only 12m wide and

would not meet the required standard for a legal road. It is considered worthy to investigate this location as future access point to a smaller scale of development, so that it could be used as a private way.

36. While it is expected that the development would have minimal impact on the wider transport network, it is considered that the previous construction of narrow private accessways is now presenting some constraints to ensuring that sufficient access to 118 Brockville Road and 23 Sretlaw Place is available for any substantial level of development on this site.
37. Hence, unless the submitter is able to demonstrate that suitable road access can be achieved, it is considered that the development potential of the site is constrained by the standard of accesses that has been provided previously.

RS176: 234/290 Malvern Street, Leith Valley – Rezoning from Rural Residential 2 to either Large Lot Residential (LLR1 or LLR2) or Rural Residential 1

38. City Development's memo to DCC Transport indicates that the site would be able to accommodate a total of **58** dwellings at Large Lot Residential 1 Zoning, **33** dwellings at Large Lot Residential 2, and **8** dwellings and Rural Residential 1.
39. The site was originally rejected because access to the site is constrained by the Urban Biodiversity Mapped Area, and because there are downstream wastewater issues.
40. The site has frontage to Malvern Street, which is a Collector Road. The road forms part of the Council's Strategic Cycle Network, though this extends only as far Woodhaugh Street. There is no dedicated cycling infrastructure on the road. However, this does not preclude cyclists from using the road, or Council from providing this infrastructure in the future.
41. Malvern Street comprises a two-lane/two-way carriageway with painted edge lines and a dashed centre line. There is a footpath on the eastern side of the road. The Water of Leith runs more or less parallel with the carriageway on the western side of the road, near Patmos Avenue.
42. There a bus stops directly adjacent to the site.
43. A traffic count adopted from Road Assessment and Maintenance Management Tool (RAMM) on Malvern Street taken in October 2021 reveals an ADT of 1261vpd North of Patmos Avenue. The estimated ADT south of Patmos Avenue is in the order of 1500vpd. These are fairly modest volumes given the road's classification.
44. While additional development on Malvern Street will likely have cumulative effects on the efficiency of the Duke Street / George Street signalised intersection, it is considered unlikely that a development of this size would create any significant effects in this regard. In making this statement, I note that the site is well located to make use of alternative modes of transport such as walking, cycling and public transport. This supports the network resilience and travel choice focuses within the Council's Integrated Transport Strategy.
45. Overall, it is considered that residential development on the site can be supported from a traffic and transportation perspective. That said, it is not clear how access would be provided and what sort of standard could be achieved. For the number sites being contemplated (except for Rural Residential 1 Zoning), it is likely that new public roading would need to be provided, ensuring a suitable number of connection points to the existing transport network. Hence, an Integrated Transport Assessment would need to be provided to ensure all localised and wider transport impacts are adequately evaluated in detail. This will need to ensure suitable access provisions and connections to existing roading infrastructure.
46. Since undertaking the above assessment, Transport has been subsequently advised that the submitter is now proposing only two additional lots, which would be accessed via a ROW to Patmos Avenue. Such a proposal would have no noticeable effects on the wider transport network, and it is considered that any detailed matters could be addressed as part of a subdivision consent.
47. The original assessment contained in Paragraphs 38-47 are retained for completeness.

RS206, RS206a, RS77: Part 35 and 43 Watts Road, Part 109 North Road – Rezoning from Rural/Rural Residential 2 to General Residential 2/General Residential 1

48. City Development's memo to DCC Transport indicates that the site would be able to accommodate a total of **173** residential lots across the entirety of the rejected site areas listed above and shown below.

49. The area marked RS206 in the above map is approximately 2.26 ha in size and, at Large Lot Residential 1 density (minimum site size 2,000m^2) could support approximately **8** dwellings.
50. The area marked RS206a in the above map is approximately 3.01 ha in size and, at General Residential 2 density (minimum site size 300m^2) could support approximately **70** dwellings.
51. The area marked RS77 in the above map is approximately 4.07 ha in size and, at General Residential 2 density (minimum site size 300m^2) could support approximately **95** dwellings.
52. The sites were rejected because of Significant Natural Landscape issues, expected exacerbation of downstream wastewater overflows, and topography making high density development problematic.
53. Watts Road is a relatively constrained legal road corridor. It is only about 12m wide at the North Road intersection and reduces to about 10m wide at 35 Watts Road. There are steep banks on the private land on the western side of the road, meaning that even if the legal width was increased, that physical improvements would likely require significant and expensive engineering works. At the southern end, the carriageway is about 8m wide and there are footpaths on both sides. This reduces to 7m and a footpath on only one side where the carriageway crosses Lindsay Creek. Further north, the carriageway reduces to less than 6.0m wide and the footpath is less than 2.0m wide, with utility poles situated within the footpath.
54. It is not clear what level of development Watts Road would be expected to service if the land was rezoned as requested by the submitter. For less than 100du, the Code of Subdivision requires a 16.0m wide road corridor. For more than 100du but less than 450du, a 20m road corridor is expected and cycle lanes are required. The current standard of Watts Road does not

satisfy either of these requirements and no assessment of this has been provided by the submitter.

55. Additional development on Watts Road would result in additional turning movements at the Watts Road / North Road intersection. In the absence of any assessment of this by the submitter, the significance or otherwise of this effect cannot be determined with any certainty.
56. It is noted that part of 309 Watts Road is already zoned General Residential 2. It is considered that there are already constraints with achieving access to this site because access is only available from North Road. This would require a crossing structure to bring a new road over Lindsay Creek. It is considered that only a limited number of new dwellings could be constructed with a single access to avoid concerns relating to emergency access and ensuring that the demand on the one access to North Road is suitably managed. This is an important consideration in this case because North Road carries a high traffic volume (estimated 6,400ADT as per Mobile Roads meaning turning onto or off North Road could be difficult during peak hours. This is particularly the case because the majority of traffic from the subdivision would most likely be making a right turn in the am peak toward the city.
57. We do note, however, that the site is well serviced by public transport and North Road contains existing cycle infrastructure in the form of painted cycle lanes. In that sense, we consider the site is well positioned from a travel choice and resilience perspective.
58. That notwithstanding, Transport has concerns about the rezoning as requested and considers that there is insufficient detail / assessment for us to provide our support to the submitter's request.

RS171: 3 Brick Hill Road and 18 Noyna Road, Sawyers Bay – Rural to Township and Settlement

59. City Development's memo to DCC Transport indicates that the site would be able to accommodate approximately **59** dwellings lots at Township and Settlement zoning. The current zoning is Rural.
60. The site was originally rejected because residential development would exacerbate downstream wastewater overflow.
61. The submitter does not provide any assessment of the potential effects of the rezoning on the transportation network. The site is largely rectangular shaped with frontage to Noyna Road to the south and Brick Hill Road to the north.
62. Elizabeth McColl (FS86) raises road safety concerns relating to access to the site from Noyna Road and also impacts on the state highway network.
63. Noyna Road is a Local Road that provides access to a handful of residential properties. It is a single lane road widening to two-lane at its intersection with Sir John Thorn Drive. Sir John Thorn Drive forms part of the state highway network (SH88), and hence, Waka Kotahi is the Road Controlling Authority for that road.
64. Development of this site would have a potential effect on the State Highway network due to the potential for increased turning movements at the Noyna Street / Sir John Thorn Drive intersection. Waka Kotahi would need to be consulted regarding this.
65. In addition, Noyna Road would not be able to accommodate the level of development being contemplated, and hence, would need to be upgraded to the standards set out in the Code of Subdivision if it was to be used for access. This would need to include carriageway widening and footpath extensions to connect with existing infrastructure on Sir John Thorn Drive.
66. Brick Hill Road typically comprises a 20m wide legal road corridor. The formed carriageway varies from approximately 7.5m wide down to less 5.0m at the bridge / culvert crossing at the beginning of Stevenson Avenue.
67. It is considered that the carriageway over the bridge is constrained to a point where it could present issues with additional traffic volumes generated by the proposed rezoning. The structural condition of the bridge would also need to be reviewed. There are no provisions for

pedestrians and there is no footpath on Stevenson Avenue (i.e., east of the bridge). However, note that the developer of the subdivision at 105 Stevenson Avenue is required to construct a new footpath on Stevenson Avenue that links that subdivision to the existing footpath outside Sawyers Bay School. This is currently under construction. It is considered that a footpath would need to be extended from the proposed rezoning site to the new footpath on Stevenson Avenue. This would likely be more than 100m of new footpath and would therefore be a reasonably substantial / costly construction task which would need to be funded by the developer.

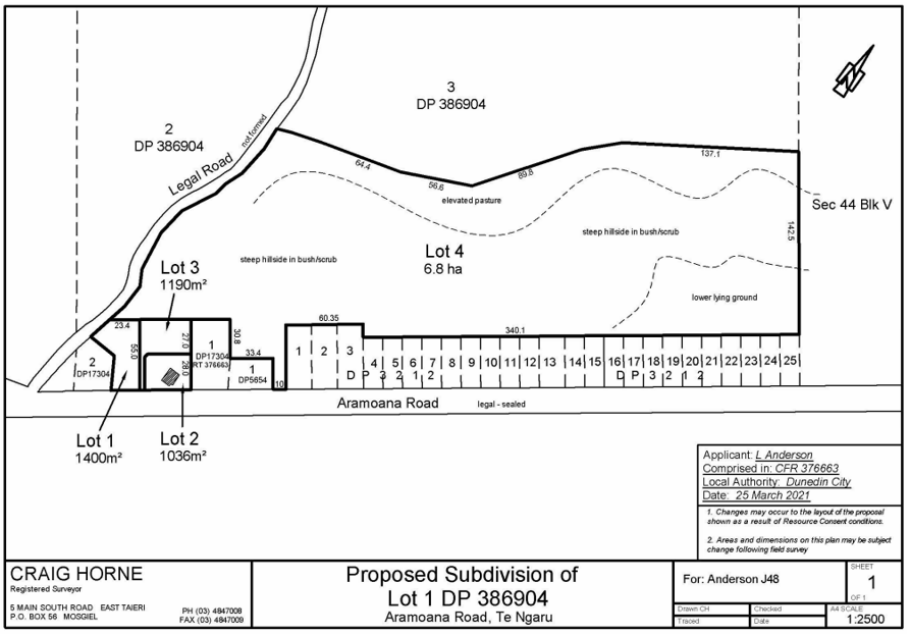
68. Any new intersection from Brick Hill Road would need to satisfy standards within Austroads and the Code of Subdivision.
69. Traffic distribution requires consideration because Brick Hill Road and Blanket Bay Road are both narrow, winding roads and additional traffic could therefore create safety issues.
70. Overall, while we are not diametrically opposed to the rezoning, there are transportation infrastructural issues that do not appear to have been considered by the submitter. Hence, the submitter should be required to provide an integrated transport assessment to the Council for review, which addresses the concerns raised above.

RS200: 489 East Taieri-Allanton Road – Rezoning from Rural to Township and Settlement/Large Lot Residential 1

71. City Development's memo to DCC Transport indicates that the site would be able to accommodate approximately 41-61 lots at Township and Settlement zoning (ranging from 500m²-700m²) and approximately 8 additional lots at Large Lot Residential 1 zoning (approximately 2000m²). The total yield would therefore be in the order of **69** dwellings. The current zoning is Rural.
72. The site was originally rejected because parts of the site are very steep, there is existing residential capacity in Allanton, and rezoning would not support the compact form/city policies.
73. The site has frontage to East Taieri-Allanton Road (State Highway 1) along its northern boundary. Waka Kotahi is the road controlling authority for this road. According to map data from Waka Kotahi, this section of the road is a Limited Access Road. The site also has frontage to Ralston Street to the west and Riverside Road to the east. A paper road runs through the site generally following an east-west alignment.
74. The site is located some 20km from the central city. Walking and cycling would not be a feasible form of transport and there is no infrastructure to support alternative modes of transport. There is also no public transport service available to the site.
75. Residential development on the site is anticipated to have a significant impact on the state highway network. This is because the Structure Plan provided implies access to State Highway 1 would be proposed and there is no evidence of consultation with Waka Kotahi in that regard. As above, this is particularly important noting that the road is a Limited Access Road
76. Ralston Street has no footpaths or kerbs. The development could potentially change the traffic dynamics on this road to a significant degree.
77. Overall, from a transport perspective, it is considered that the site is not a good candidate for the zoning sought due to its isolated location, proximity to State Highway 1, and lack of provision for alternative modes of transport.

RS205: 761 Aramoana Road – Rezoning from Rural to Township and Settlement

78. City Development's memo to DCC Transport indicates that the site would be able to accommodate **3** lots at Township and Settlement zoning (ranging from 500m²-700m²). The current zoning is Rural.
79. These are shown below.



80. An additional 3 residential sites would have an insignificant impact on the transport network. Any existing issues with the transport network would not be exacerbated to any noticeable extent because the scale of development being considered is small.

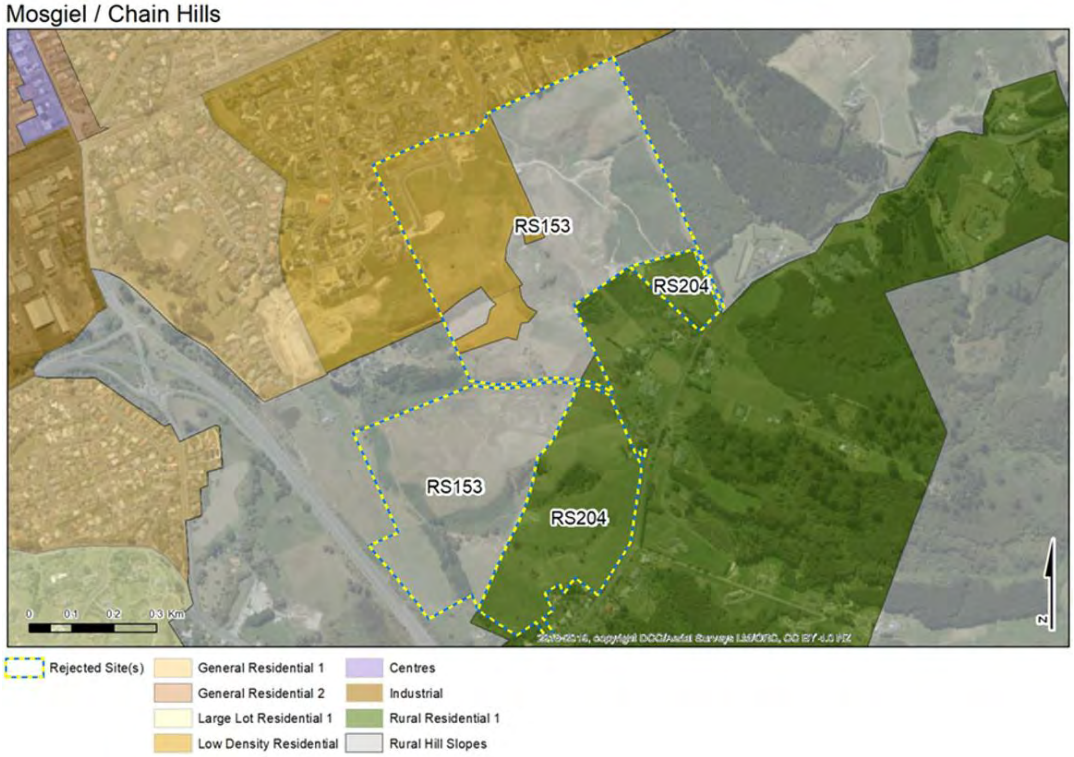
81. That said, access to the new sites would need to be assessed by the developer at the time of subdivision and confirmed as complying with minimum sight distances requirements in the 2GP.

RS204: 21, 43, 55, 65, 75, 79, and 111 Chain Hills Road – Rezoning from Rural Residential 1 to a mix of zones (GR1, LLR1) as shown on submitter's structure plan & RS153: 77 and 121 Chain Hills Road and 100 Irwin Logan Drive, Mosgiel – Rezoning from Rural to a range of Residential and Rural Residential zones. Note – requested additional sites are included: 2-20 Jocelyn Way, 38 and 40-43 Irwin Logan Drive, and 25-27 Pinfold Place

82. The current zoning is a mix of Rural Hill Slopes and Low Density Residential which provides for a minimum site size of 25ha and 750m², respectively. The submitter has provided a draft structure plan which would provide for a total of **136** lots across **both** RS204 and RS153.

83. RS204 comprises of the land fronting Chain Hill Road – 21, 43, 55, 65, 75, 79 and 111 Chain Hills Road. RS153 comprises of the land at 77 and 121 Chain Hills Road, and 100 Irwin Logan Drive. There are also additional sites requested at 2-20 Jocelyn Way, 38 and 40-43 Irwin Logan Drive, and 25-27 Pinfold Place. RS204 and RS153 are shown below.

Mosgiel / Chain Hills



84. The submitter's structure plan is shown below, which, as above includes land across both RS204 and RS153.

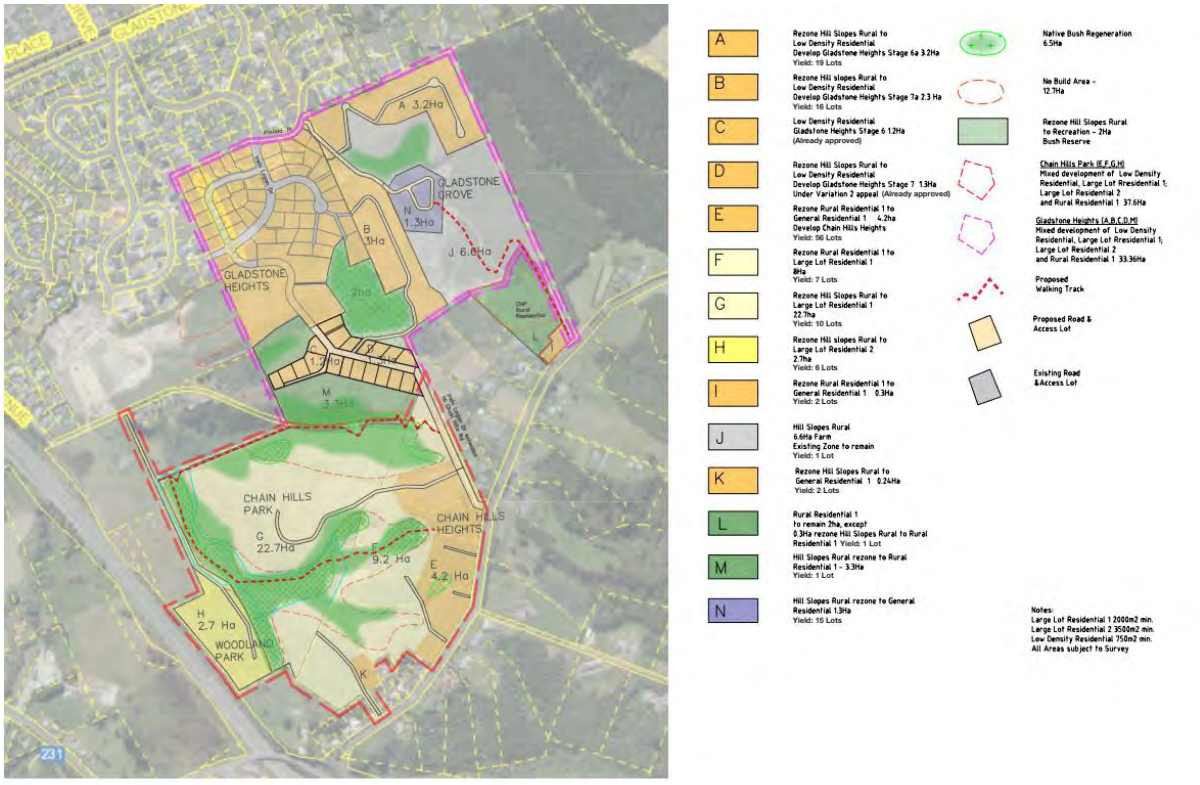


Figure 1 : Proposed Re-Zone Site Structure Plan

85. A notable number of submissions were received on this site which raise transportation concerns.

86. FS105 opposes the change and specifically notes that they oppose the proposed road connection from Gladstone Road North to Chain Hills Road due to safety concerns.

87. FS107, FS108, FS118, FS246, FS26, FS46, FS48 and FS165 oppose the change primarily due to concerns about the road connection. They consider that Chain Hills Road and Morris Road are currently unsuitable to accommodate the change. FS165 notes that there are no pedestrian or cycle facilities on Chain Hills Road and suggests that the developer should be required to construct a cycle and pedestrian path at least along the area where the proposed road will join Chain Hills Road and the junction with Morris Road, and provide for a dedicated cycle lane along Morris Road and possibly Main Road as far as the Old Brighton Road turnoff. They also consider it is questionable to promote cars leaving the motorway at Fairfield to reach Mosgiel because they would need to pass the Fairfield Primary School.

88. FS183 supports the submission in part but has raised concerns about a new road connecting to Woodland Avenue. They consider that development of their property at 40 Woodland Avenue would 'go some way to mitigating these issues as it would allow widening the road and access to further up the hill without going through the neighbour's property'. Note that Transport is unclear as to whether a road connection from the development site to Woodland Avenue is being promoted by the proposer.

89. FS89 opposes the submission, but in particular opposes the road connection between Gladstone Road North and Chain Hills Road. They comment that the Irwin Logan Drive / Gladstone Road North intersection will 'become an increasing bottleneck'. They consider that this intersection would require a roundabout. They also raise concerns about more traffic turning right from Irwin Logan Drive into Heathfield Drive and associated effects on the safety and efficiency of Gladstone Road North.

90. FS196 opposes the submission due to the various transport related concerns. They also note the lack of consideration for public transport.

91. FS48 oppose the submission due to concerns about access to the site via a right of way passing along the back of the further submitter's property (20 Pinfold Place).

92. I respond to these submissions below.

93. In terms of the existing transport network, Irwin Logan Drive has an 18.0m wide reserve width, typically comprising an 8.0m wide sealed road carriageway with footpaths and berms on both sides. There is a footpath on the western side of the road only for the first 120m from Gladstone Road South. Pram crossing points are provided at intersections as necessary.

94. A recent traffic count in July 2021 adopted from RAMM showed an ADT of 903vpd on Irwin Logan Drive between Gladstone Road North and Heathfield Drive. There is no recent count information for this road south of Heathfield Drive. Currently, the traffic volumes on Irwin Logan Drive, south of Heathfield Drive, will be less since some of the traffic will disperse off Irwin Logan Drive and into the Heathfield development. Note also that this count was taken soon after construction of the Heathfield Drive connection to Woodland Avenue, and it is therefore possible that some of the traffic was/is using this road as a through route to enter or exit Mosgiel. The extent of this is unclear.

95. As can be seen from the submitter's concerns, the submission proposes a roading link between Chain Hills Road and Gladstone Road North. This would occur via an extension of Irwin Logan Drive, which passes through the Gladstone Oaks development and has continued through the more recent Gladstone Heights development.

96. Chain Hills Road extends from Morris Road and terminates at a dead end after a length of about 3.4km. The proposed new intersection with Chain Hills Road is shown to be located about 800m north of the Morris Road intersection and hence, this section of Chain Hills Road would receive additional demand should the connection proceed. The proposed intersection location would require assessment against Austroads. This would need to be done by the developer's traffic engineer and submitted to Council for review.

97. Many submitters raise concerns with respect to the safety implications of the development on Chain Hills Road. They note that the road is a rural road with an 80kph speed limit with a tortuous alignment and lack of facilities for non-motorised road users. I concur with the concerns raised by the further submitters and consider that the proposer should be required to address these concerns.
98. It is noted that even if the concerns raised on Chain Hills Road with respect to inadequate facilities for non-motorised users are resolved, that the same issues exist on Morris Road. There are no current plans for Council to install footpaths or cycle facilities on Morris Road, and hence, the development is likely to increase pressure for Council to install this infrastructure. This would be a significant project in terms of scale and cost.
99. In addition, the submitter has not undertaken an analysis of the proposed road connection on the wider transport network. While Transport is typically supportive of proposals that enhance network connectivity, this needs to be assessed in the context of the surrounding environment.
100. In that regard, Transport recommends that an integrated transport assessment is prepared by a suitably qualified and experienced person. This will need to include an analysis of traffic generation, but also distribution of existing and new traffic which could be changed with the proposed roading connection. This will allow the Council to better understand the scale of the potential wider effects of the connection on the wider transport network. For example, the connection could be used as a rat-run for drivers wishing to bypass the SH87 intersection which is commonly understood to be under significant pressure during peak hours. This could funnel additional traffic through Fairfield, accessing/egressing the motorway via Old Brighton Road. As above, in the absence of any detailed transport assessment / traffic modelling, the scale of this potential problem is not understood to a point where the Council is able to make a conclusive determination on Transport rounds as to the acceptability (or otherwise) of the development at this stage.
101. Notwithstanding the concerns raised above, and in the event that the proposal was acceptable in principle to Council (including the provision of the link road), the Council would need to better understand what standard the connection road could be constructed to, particularly in terms of widths and gradients. This is because of the steep topography required to traverse over the hill.
102. Overall, then, it is considered that in the absence of any detailed traffic/transport analysis, that Transport is currently unable to provide its support to the proposed rezoning.

RS169: 41 Emerson Street – Rezoning from Rural to General Residential 1

103. City Development's memo to DCC Transport indicates that the site would be able to accommodate **102** dwellings at General Residential 1 zoning (500m²). The current zoning is Rural.
104. The existing transport infrastructure on Emerson Street is inadequate to accommodate urbanised development such as this. For more detail, please refer to the Greenfield Sites assessment relating to 33 Emerson Street.
105. An additional 102 dwellings is likely to have a significant impact on the transport network and further assessment would need to be undertaken by the submitter to further understand and evaluate these effects.
106. At a minimum, Emerson Street would need to be upgraded to an urban roading standard and nearby intersections would need to be assessed with the additional traffic volumes to determine what upgrades would be required.
107. Hence, in the absence of any supporting transportation information, Transport is unable to provide its support to this rezoning.

RS14: Freeman Cl and Lambert St, Abbotsford– Rezoning from Rural to General Residential 1

108. City Development's memo to DCC Transport indicates that the site would be able to accommodate the following:
    - 25 McMeakin Road (S298.001) is 2.7 ha in size and has an estimated capacity of **47** lots at a 400m^2 minimum site size.
    - The area in question of 42 Lambert St (S281.001) is approximately 6.6 ha size and has an estimated capacity of **116** lots at a 400m^2 minimum site size.
    - 45 McMeakin Road and part 188 North Taieri Rd (S228.003) is approximately 30.83 ha in size total. At a 400m^2 minimum site size (GR1) the site could support up to approximately **540** lots. At a 750m^2 minimum site size (LDR) the site could support up to approximately **288** lots.
    - 55 McMeakin Road (S302.002) is approximately 15.1 ha in size and has an estimated capacity of **264** lots at a 400m^2 minimum site size.
109. This is a total maximum capacity of up to **967** new dwellings.
110. The site was originally rejected as significant natural hazard risks were identified.
111. FS102 opposes the change because the current roading in the surrounding area, particularly North Taieri Road, is not suitable for the increased traffic flow that could be enabled by the rezoning. They also consider that North Taieri Road is not wide enough to cope with the current traffic due to kerbside parking, particularly around school pick-up/drop-off times.
112. FS114 raises various concerns relating to the standard of North Taieri Road, both in terms of safety and structural integrity. This submitter has particular concerns with respect to safety around Abbotsford School and impacts of additional traffic on the railway crossing bridge, near Severn Street.
113. FS187 raises concerns about resilience due to lack of alternative access provisions, safety at the Severn Street/Abbotsford Road/North Taieri Road intersection, as well as general safety and congestion concerns at Abbotsford School.
114. In response to submissions, it is considered that with the quantum of development being considered, that there would be significant effects on the transport network. These effects have not been evaluated by the submitters. I consider that an additional 967 dwellings could generate in the order of 7,930vpd-9770vpd, and 870-1160vph during the peak hours. This is a significant amount of new traffic. Since the development site is located at the end of North Taieri Road, a large proportion of this traffic would be required to travel the full length of the road when entering and leaving the site.
115. According to Mobile Roads, the latest estimated ADT on North Taieri Road, between Freeman Close and McKinlay Road is currently 410vpd. From this, I would anticipate a peak hour traffic volume in the order of 41-62vph. The development could therefore increase the daily traffic volume on this section of North Taieri Road by over 9,000vpd and the peak hourly traffic volume by over 1,100vph. This would represent a substantial change in transport demands for North Taieri Road. The volumes on the southern parts of the road would be even higher because of the already existing higher volumes.
116. The effects of this additional traffic on downstream intersections, such as North Taieri Road / Abbotsford Road and also the motorway on-ramp and nearby roundabouts, has not been assessed by the submitters.
117. Since the site is constrained in terms of options for access, it is considered that this level of development would create unacceptable pressure on North Taieri Road and the wider transport network. It is considered that, as a minimum, a development of this size would require construction of additional connection points to other parts of the existing transport network. There are existing legal roads in McMeakin Road and Abbots Hill Road which provide these possible connections. However, these roads are not fully formed and where they are formed, the standard is not suitable for residential development. They also have narrow reserve widths.

118. From a structural integrity perspective, it is unlikely that North Taieri Road would be able to accommodate the additional traffic loading. This is especially the case noting the amount of heavy construction traffic that would be required to access the site during earthworks/subdivision construction phase, and house construction phase. The railway bridge also presents constraints in this regard, since the bridge is structurally incapable of supporting heavy overweight type vehicles, such as mobile cranes.
119. Based on the above high-level assessment, it is considered that Transport is unable to provide its support for the proposed rezoning, based on the quantum of development being proposed and the lack of sufficient transport assessment on behalf of the submitters.

RS154: 91 and 103 Formby Street – Rezoning from Rural to Township and Settlement

120. City Development's memo to DCC Transport indicates that the site would be able to accommodate **31** dwellings at Township and Settlement zoning (500m²). The current zoning is Rural.
121. The site has frontage to Formby Street to the east and Huntly Road to the south. Formby Street is a Local Road and Huntly Road is a Collector Road.
122. Outram School is located about 280m from the site on Formby Street. The Outram Rural Centre Zone is about 1km away.
123. Formby Street has a reserve width in the order of 12m. The carriageway is formed to a width of about 5.5m with a dashed centre line. There are no footpaths on this section of Formby Street. The nearest footpath commences north of Three Kings Court. The posted speed limit is 50kph. Street lighting along this section of Formby Street may not be suitable for residential development and may therefore require upgrading to meet current standards.
124. Huntly Road has a varying reserve width but is typically in the order of 12m wide. The carriageway is in the order of 6.0m wide with a dashed centre line. There are no footpaths on Huntly Road. There is street lighting on the south side of the road between Formby Street and Bell Street, but not along the section that passes the development. The posted speed limit is 70kph. The operating speed is unknown. There is a line of utility poles which present roadside hazards.
125. The vertical and horizontal alignments of both roads are favourable. There are no significant undulations or curves.
126. Huntly Road / Formby Street intersect at a typical priority T-junction with Huntly Road having priority. There is no formal give-way signage or road markings and there is no continuity line. There is a chevron sign indicating to drivers that the road does not continue straight but that they are instead required to turn left or right onto Huntly Road. Having considered the reported crash history using NZTA Crash Analysis System, the intersection has an excellent accident record with no crashes reported in the past 10 years. However, this would need to be reviewed in light of additional traffic volumes from development.
127. Additionally, the lack of pedestrian / cycle infrastructure is an issue. The developer would need to extend footpaths to connect the development with existing infrastructure. This is likely to be a substantial expense but is a pre-requisite for development in order to manage transport effects. In addition to providing for active road users, provision footpaths kerb and channel would assist with managing vehicle operating speeds.
128. The speed limit on Huntly Road would also need to be reviewed and likely reduced, with infrastructure provided to ensure drivers respect the reduced speed limit.
129. An Integrated Transport Assessment would need to be undertaken at the developer's expense to ensure all transport effects are adequately evaluated and suitable mitigation / design measures implemented to manage any adverse effects.
130. Hence, while it is considered likely that, subject to the above, an additional 31 dwellings would have only a minor impact on the wider transport network, Transport questions the overall suitability of development of this site from a sustainability perspective. In particular, the site is

located some 25km from the city centre and residents would be provided with minimal transport options. Facilitating further development in Outram is considered to be at odds with key focus areas within the Dunedin Integrated Transport Strategy, such as a focus on travel choices and resilience.

RS175: 85 Formby Street – Rezoning from Rural to Township and Settlement

131. City Development's memo to DCC Transport indicates that the site would be able to accommodate **43** dwellings at Township and Settlement zoning (500m²). The current zoning is Rural.
132. Hence, the combined capacity of RS175 and RS 154 would be in the order of **74** dwellings.
133. It is considered that all of the transport comments made with respect to RS154 are also applicable to this site. However, a combined development of dwellings would be a substantial development for Outram, and the associated transport effects would clearly be more significant.
134. The comments made under Paragraph 130 are emphasised again, being relevant for RS175 and RS 154 individually, but amplified in a scenario where both developments proceeded.
135. Transport considers that, despite the outcomes of any effects assessment of a future integrated transport assessment, that there are fundamental transportation policy issues associated with adding further development capacity in isolated locations such as Outram. On that basis, and noting that the Council considers there to already be adequate capacity for housing in Outram, Transport is not convinced that rezoning both RS175 and RS154 is a desirable outcome for the city's transport network. Hence, we are not supportive of these submissions.

DUNEDIN CITY COUNCIL | kaunihera a-rohe o Ōtepoti

Memorandum

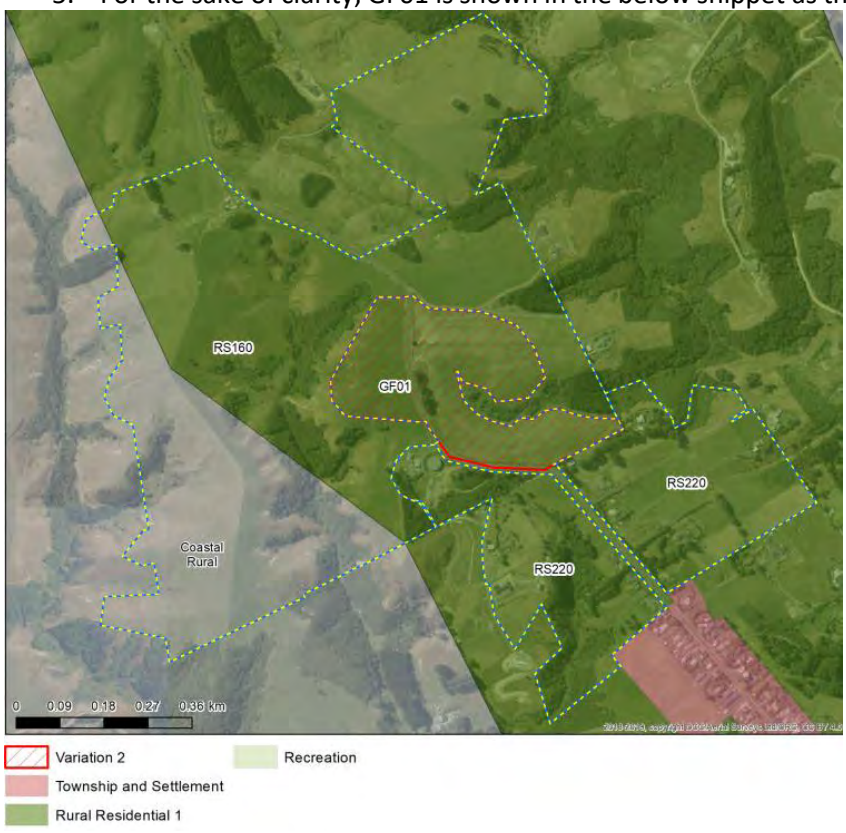
TO:	Bede Morrissey, Policy Planner, City Development
FROM:	Logan Copland & Trevor Watson - DCC Transport
DATE:	15 March 2022
SUBJECT:	**VARIATION 2: DCC TRANSPORT RESPONSE TO REQUEST FOR COMMENTS ON DCC-PROPOSED GREENFIELD SITES**

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 compliant 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.

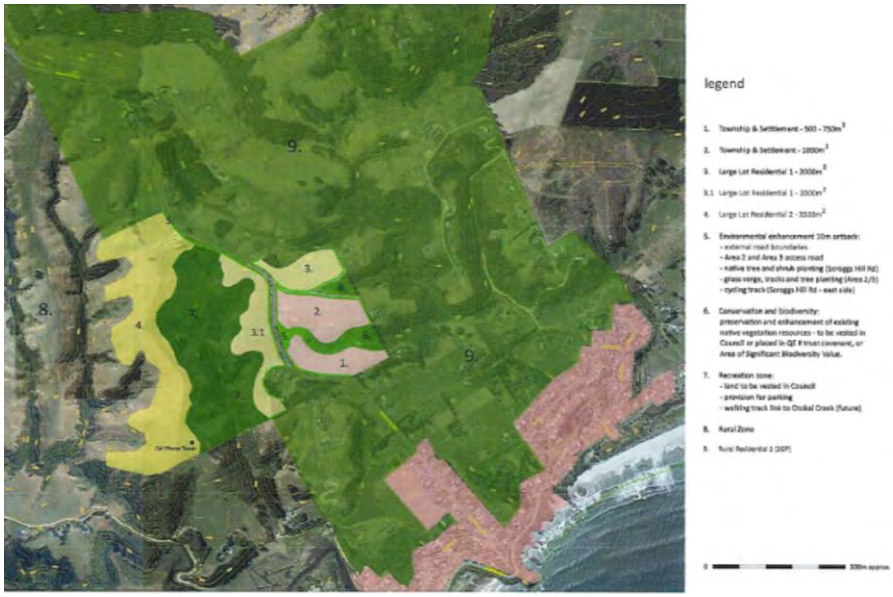


Figure 1: Potential Structure Plan proposed by Submitters

24. Figure 2 depicts the RS160 and RS220 areas, as well as GF01 which has been evaluated seperately above. City Development have advised that the yeild for RS160 on its own is yet to be determined. However, you have advised in an email dated 10/03 that the anticipated yeild 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.

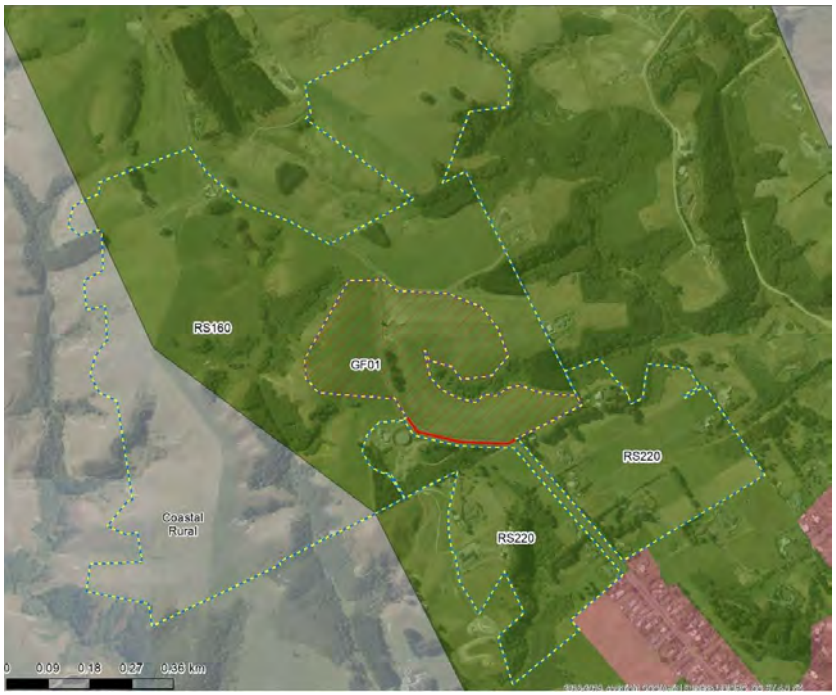


Figure 2: Plan showing RS160 and RS220 (note also the location of GF01 which has been evaluated above).

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 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.