Transport + Location Intelligence

Transport Comments on Plan Change 63 to the Selwyn District Plan

Prepared for: Rachael Carruthers, Selwyn District Council
Job Number: SDC-J037
Revision: Final
Issue Date: 28 June 2021
Prepared by: Dave Smith, Technical Director

Introduction

1. My name is David John Robert Smith.

2. I hold a Bachelor of Technology (with Honours) in Industrial Operations Research and Master of Philosophy in Operations Research from Massey University. I am a Chartered Member of the Institute of Logistics and Transport (CMILT), a member of Engineering New Zealand (MEngNZ) and a member of the NZ Modelling User Group sub-group of ENZ. I have been appointed to the NZ Transport Agency Independent Professional Advisors panel for Transportation Modelling. I am also certified as a Hearings Commissioner having completed the Making Good Decisions course in 2019.

3. I hold the position of Technical Director of Transportation Planning at Abley. I have been in this position since 2018 and have been at Abley for since 2012. I lead a range of development planning and transportation planning projects for both public and private sector clients.

4. My previous work experience includes 21 years of transportation planning and engineering experience. I have managed and led numerous projects related to transportation business cases, transportation research and Resource Management Act (**RMA**) related matters for public and private sector clients. As an expert witness I was engaged by the Environmental Protection Authority (EPA) to provide transportation advice and evidence directly to the Board of Inquiry presiding over the Basin Bridge hearing. I have also recently represented Foodstuffs South Island Limited, Auckland Council, Selwyn District Council, Queenstown-Lakes District Council, Ports of Auckland, and Fonterra as a transportation expert witness.

5. My role in relation to Private Plan Change 63 (PC63) to rezone approximately 60 hectares located east of Darfield from Rural Outer Plains to a mix of Living 1 (14.6ha) and Living 1 Deferred (46ha) zone is as an advisor to Selwyn District Council on traffic and transportation matters.

6. In my assessment I have reviewed the following documents:

    a. Appendix A: Amended Outline Development Plan lodged on 28th April 2020

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b. Appendix C: Integrated Transport Assessment (ITA) by Novo Group Ltd, dated 6 April 2020.

c. Submissions (with submission numbers indicated) addressing transport-related matters from the following parties:

   i. Phillipa Joan Anderson (submission #1);

   ii. Janice and Collan Perriton (submission #3);

   iii. Crystal Vercoe (submission #5);

   iv. KiwiRail Holdings Limited (submission #9);

   v. Waka Kotahi NZ Transport Agency (submission #10);

   vi. Katherine Molloy (submission #12);

   vii. Westmar Senior Care Darfield (submission #13); and

   viii. Kirsty Lucey and Ben Hanburger (submission #14).

d. Darfield Deferred Residential Rezoning Integrated Transport Assessment by Stantec New Zealand, dated 31 July 2019;

e. Level Crossing Safety Impact Assessment (LCSIA) for Darfield Deferred Residential Rezoning by Stantec New Zealand, dated 13 February 2020;

f. Response to Submission on Plan Change 63, Darfield, by Novo Group Ltd, dated 21 December 2020;

g. Response to Submission on Plan Change 63, Darfield, by Novo Group Ltd, dated 24 February 2021; and

h. Additional Transportation Assessment: Plan Change 63, Darfield, by Novo Group Ltd, dated 22 June 2021.

7. I have undertaken a site visit on 9 February 2021 in relation to this application and observed the local traffic environment.

8. I have prepared evidence in relationship to:

   a. Assessment of the Application against the relevant RMA matters; and

   b. Matters raised through submissions.

Relevant RMA matters

9. I have undertaken an assessment of PC63 against the relevant transport objectives and policies of Canterbury Regional Land Transport Plan (CRLTP) and Canterbury Regional Public Transport Plan (CRPTP). This is

included as Attachment A to this statement of evidence. I have not identified any areas where the application is inconsistent with or contrary to the transport-related policies and objectives in the CRLTP and CRPTP.

10. Ms Carruthers has undertaken a detailed assessment of the plan change against the Selwyn District Plan and Canterbury Regional Policy Statement and I defer to her in this regard.

Matters raised in submissions

11. Comments are provided on the following submissions relating to transportation aspects. These comments are grouped into topics to assist in providing a comprehensive response. The specific submissions are those submitted by *Anderson (#1), Perriton (#3), Vercoe (#5), KiwiRail Holdings Limited (#9), Waka Kotahi NZ Transport Agency (#10), Molloy (#12)*, *Westmar Senior Care (#13)* and *Lucey & Hanburger (#14)*.

Level crossings

12. KiwiRail Holdings Limited requested in their submission that Level Crossing Safety Impact Assessments (LCSIAs) be undertaken on level crossings in the area prior to the Plan Change proceeding to a hearing and noted if mitigation was identified that this should be undertaken at the time of subdivision. The submission from Waka Kotahi also raises concerns about the increase to vehicle movements across existing level crossings as a result of the development. Stantec preparing a LCSIA in February 2020 and in the context of PC63, my colleague Dr Shane Turner has reviewed this document at my request.

13. Dr Turner is Technical Director of Safe Systems at Abley and holds a Bachelor of Engineering and a doctorate in Civil Engineering. He is a Chartered Professional Engineer (CPEng), a Chartered Member of Engineering New Zealand (CMEngNZ). Dr Turner developed the LCSIA process for KiwiRail, subsequent guidelines and delivered industry training so is a certified LCSIA practitioner and trainer.

14. Dr Turner has advised me that he considers the LCSIA is well put-together and informed, and prepared by a suitably qualified professional. He did not identify any significant issues. Dr Turner has informed me that the assessment indicates that level crossings will need to be upgraded to support future development but does not indicate when these upgrades will be required. It is unclear what level of development or traffic growth would trigger the need to upgrade the level crossings.

15. I understand from SDC that the recommended level crossing upgrades have been included in the SDC 2021-31 Long Term Plan (LTP) Capex programme and that these are programmed as follows:

    a. Mathias Street Level Crossing Pedestrian Upgrade – 2024/25

    b. Mathias Street Level Crossing Upgrade – 2024/25

    c. McMillan Street Level Crossing Pedestrian Upgrade – 2024/25

    d. Perrin Place Level Crossing Pedestrian Upgrade – 2024/25

    e. North Terrace Level Crossing Upgrade – 2027/28

f. Horndon Street North Level Crossing Upgrade – 2031/32

16. Based on Dr Turner's review of the assessment, my own review of the ITA, and the inclusion of upgrades to the Darfield level crossing upgrades within the SDC 2021-31 LTP, I am satisfied that submitter concerns around the level crossings have been resolved. I agree that the upgrades should be in place prior to substantial development of the Plan Change area, and it would be appropriate for this to be a matter of discretion at subdivision consent stage.

Multi-modal transport

17. Submission #10 from Waka Kotahi states that the proposed plan change does not support multi-modal transport options. I also note that submission #12 considers the application does not provide sufficient information addressing pedestrian access.

18. The amended ODP (Figure 1) proposes to include a footpath along the eastern side of Kimberley Road along the full length of the Plan Change site's western boundary, a dedicated pedestrian link between 24 and 28 Kimberley Road, and footpaths on all roads within the ODP in accordance with the Operative District Plan. Ms Williams notes in her 20 December 2020 response to Waka Kotahi that *"the other key road connections to the shops and school already have footpaths"* and *"there are existing crossing points on SH73"*.

19. I have assessed walking routes between the plan change site and the town centre (refer to Figure 1) and consider there to be adequate routes serving all pedestrian accesses to the site. I note there are three pedestrian level crossings which are proposed to be upgraded in the SDC draft LTP (as stated in paragraph 15) and six pedestrian crossings of SH73 which consist of pedestrian refuges. In my consideration, the ODP as proposed is well integrated with the existing Darfield pedestrian network and that connections between the site and the town centre are acceptable.

20. There is currently no dedicated cycling network in Darfield therefore cycling is limited to the road network. The application has not considered the proposed Darfield to Kirwee cycleway which appears in SDC's Walking and Cycling Strategy Action Plan and is in SDC's draft 2021-31 LTP. Though it will not directly serve the plan change site, when complete it will be accessible to residents via the town centre and provide an option for longer distance travel.

21. The Plan Change site is located in relatively close proximity to the current retail and commercial centre of Darfield (fronting onto SH73) which will be accessible via an approximate 600 metre (for nearest lots) to 1.5km (for northernmost lots) walk or cycle trip to reach SH73. This approximates to an 8-20 minute walk (assuming typical walking speed of 4.5 kph) or a 3-6 minute cycle ride (assuming typical cycle speed of 15 kph) which is considered to be well within the range of most pedestrians and cyclists.

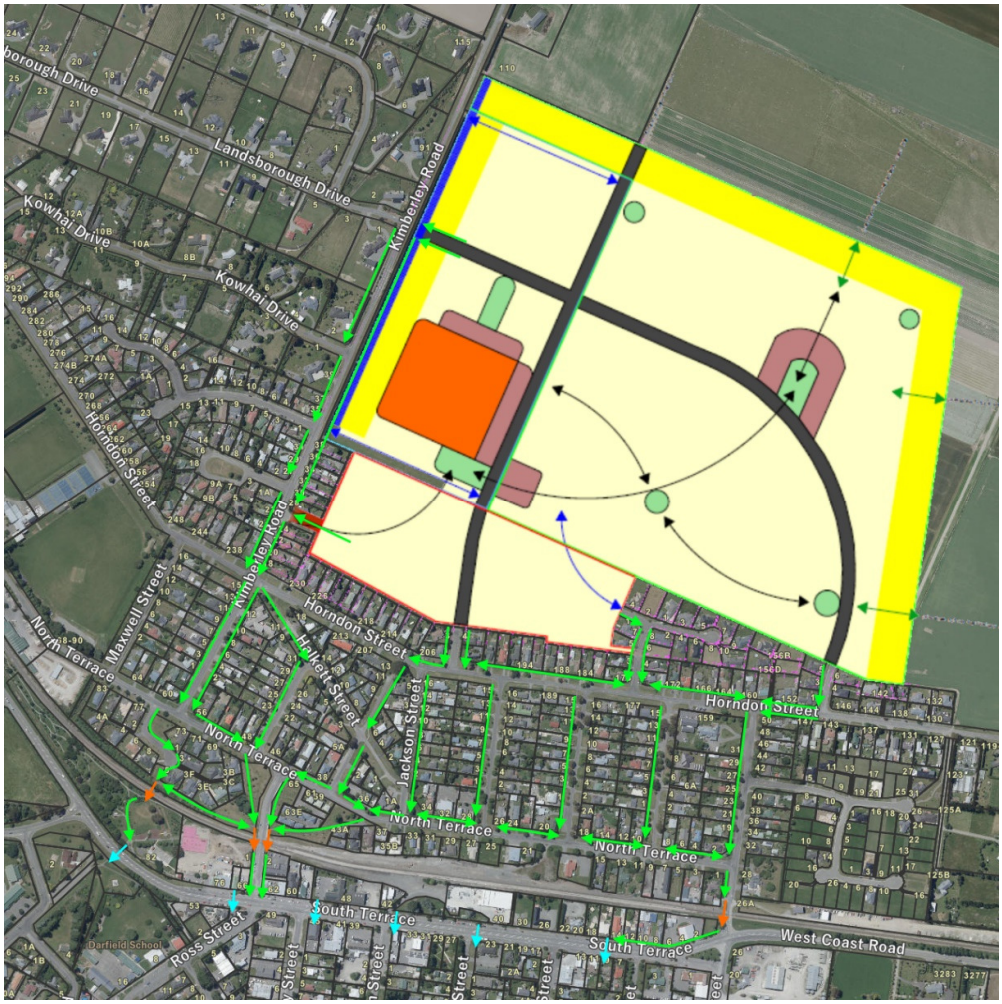


Figure 1 Amended ODP showing walking routes between PC63 site and the town centre

22. Submissions #10 and #12 raise concerns about the safety of pedestrians crossing SH73 to access Darfield School and Darfield High School. Ms Williams notes in the 20 December 2020 response to Waka Kotahi that *"the crossing on SH73 immediately west of the McMillan Street intersection already operates with a Kea Crossing before and after school to assist children with crossing between the northern side of the State Highway and the existing schools."* I have observed the kea crossing in operation and am satisfied that the existing kea crossing will provide the opportunity for pedestrians travelling between the schools and the plan change site to safely cross SH73.

Traffic generation and local network effects

23. Submissions #10 and #12 raise concerns that traffic generation has been underestimated. The updated trip generation assessment assumes a peak hour trip generation rate of 0.9 trips per dwelling for residential activities, 0.2 trips per unit for independent living units and 0.22 trips per bed for higher level care beds. These

rates originate from appropriate sources (e.g. RTA Guide to Traffic Generating Developments) and I consider them to be appropriate in the context of this Plan Change.

24. Waka Kotahi in communication with the Applicant (and captured in the 24 February 2021 response to Waka Kotahi from Novo Group) has recommended a trip generation of 1.2 vehicles in peak hour per dwelling, based on NZTA Research Report 453 (RR453). RR453 describes this figure as an 85th percentile design value and I consider an average trip rate is appropriate for a Plan Change assessment. The RTA Guide recommends a range of 0.85 to 1.0 vehicles in peak hour. I consider the value of 0.9 used by the Applicant to be appropriate and that a change in line with Waka Kotahi's recommendation would overstate the likely traffic effects of the development.

25. I further note that residential private plan changes in Selwyn District that have been made operative in the last two years (PC59 in West Melton and PC60 in Kirwee) and the plan change awaiting decision at the time of preparing this evidence (PC61 in Darfield), all use trip generation rates in the range of 0.85 to 1.0 vehicles per hour per residential unit. I also note that the ITAs for other residential Private Plan Changes in Selwyn District that are currently lodged, including PC64, PC68, PC69, PC70, PC71, PC72, PC73, PC74, PC75 and PC77, all use trip generation values in the range of 0.85 to 1.0 per dwelling. I see no reason to re-assess the trip generation rate for PC63 as requested by Waka Kotahi.

26. Submitters raise concerns about increases in traffic on neighbouring roads as a result of PC63. The Plan Change site is estimated to generate a total of 420 vehicle trips in the peak hour (refer to Novo Group Response to Waka Kotahi submission dated 24 February 2021 paragraph 2) based on a trip rate of 0.9 trips per peak hour per dwelling, which is equivalent to 7 vehicles per minute, or one vehicle every 8.6 seconds. These vehicles will enter and exit the plan change site by one of six access points. I consider this to be an acceptable number of accesses for the size of the proposed development, and these will help to spread any the additional traffic generation across the wider transport network. Existing traffic volumes on the local network are generally low, and I consider the operation of the intersections of McMillan Street and Mathias Street with the State Highway 73 (SH73) to be the most critical. These and other specific locations identified by submitters are addressed in further detail later in this statement of evidence.

27. Submitters have raised concerns about the performance of intersections along SH73 though Darfield, including those with Horndon Street (east), Horndon Street (west), Mathias Street, McMillan Street, North Terrace, Homebush Road and Creyke Road. In their Response to Submission to Waka Kotahi dated 24 February 2021, Novo Group provided model results from SIDRA Intersection 9.0 for the intersections of McMillan Street / Ross Street / SH73 and Mathias Street / SH73, which have the highest traffic volumes among the SH73 intersections in Darfield and are the two that most directly serve the plan change site. These results indicate that there may be increases in vehicle delay on the through and right-turning movements on the minor arms of the intersections. The maximum increase is 5.4 seconds on the right turn out of Ross Street in the PM. However, all movements at these intersections are Level of Service D or better in both peaks, which is an acceptable Level of Service for low-volume-traffic movements in the peak hour.

28. At my request, the Applicant has provided further model results for the intersections of McMillan Street / Ross Street / SH73 and Mathias Street / SH73 which included an increase of 20% to SH73 through traffic to account

for background traffic growth. These results were presented in the Additional Transportation Assessment prepared by Novo Group dated 22 June 2021. The results indicate that all movements at these intersections will continue to operate at Level of Service of D or better. The Applicant notes that for this modelling, the default heavy vehicle gap acceptance factor has been reduced from the default value of 1.5 to 1.4 for the critical right turning movement from the south. Ms Williams has justified this adjustment in saying that "*whilst there was a high proportion of heavy vehicles, casual observations during the surveys suggested this included a number of smaller heavy vehicles which would require a smaller gap in traffic to turn safely*".

29. The heavy gap acceptance factor is a multiplier that increases the length of the gap that heavy vehicles look for as compared to the gap that light vehicles look for to make a turn. I have reviewed the SIDRA Intersection 9.0 User Guide which provides a formula relating the heavy vehicle gap acceptance factor to queue space. Queue space is defined as "the distance between the front ends of two successive vehicles in the traffic stream". A heavy vehicle gap acceptance factor of 1.4 equates to a queue space of 11.8m, whereas the default heavy gap acceptance factor of 1.5 equates to a queue space of 13.0m. I have not observed the size of heavy vehicles accessing SH73 from Mathias Street south but am satisfied with Ms. Williams' explanation based on her observations from the surveys. On this basis I am satisfied that the intersections will perform at an acceptable level in the development scenario considered with an allowance for background growth in through traffic.

30. I consider that there is some uncertainty around the level of uptake of other development in Darfield including Plan Change 24 to the southeast, and other future Darfield development areas included in the Proposed District Plan (refer https://eplan.selwyn.govt.nz/review/#Rules/0/474/1/0/0). These developments have the potential to impact on the quantity of through traffic or traffic accessing SH73 at the McMillan / Ross and Mathias Street intersections. There is also uncertainty regarding the future staging and uptake rate of development of PC63.The cumulative effect of PC63 in the context of some or all of these developments has not been assessed, therefore I recommend that the impacts of traffic on the State Highway arising from development of PC63 should be a matter of discretion triggering the need for an Integrated Transport Assessment at subdivision consent stage.

31. Submissions #1, #3 and #5 raise concerns about the increase in traffic on Kimberley Road and submission #12 extends this to neighbouring roads. Kimberley Road is classified as a collector road between North Terrace and Kowhai Drive in the Operative District Plan, and the section between Kowhai Drive and Old West Coast Road is proposed to be made a collector road under the Proposed District Plan.

32. I have accessed SDC's traffic volume spreadsheet (April 2021 version) available at https://www.selwyn.govt.nz/services/roads-And-transport. The most recent count on the most heavily trafficked segment of Kimberley Road is 1408 vehicles per day between Coleman Place and Horndon Street. As a general rule-of-thumb approximately 10% of this traffic travels in peak hour which approximates to 140 vehicles per hour. The Additional Transport Assessment prepared by Novo Group dated 22 June 2021 indicates that Kimberley Road will provide access for 189 two way vehicles per hour in the peak hour. This development will therefore more than double the amount of traffic on Kimberley Road in the peak hour, with a total two-way peak hour flow of approximately 330 vehicles. This total flow equates to one vehicle approximately every 11 seconds in peak hour. I consider this level of traffic to be well within the capacity of a collector road and is unlikely to

result in adverse effects with respect to the safe and efficient operation of this corridor or existing intersections along the corridor.

33. Submission #3 raises a concern about the operation of the intersection of the proposed primary western access with Kimberley Road and Landsborough Drive. Novo Group has provided SIDRA traffic model results for this intersection in the Additional Transport Assessment dated 22 June 2021. This modelling indicates that the maximum average delay experienced by any movement in the AM and PM peaks will be 5.5 seconds and 5.4 seconds, respectively, for right turns out of Landsborough Drive. This puts the intersection within Level of Service band A, which is the highest (best) possible Level of Service band. I have reviewed the modelling results and am satisfied the intersection has been modelled in accordance with best practice and that it will operate well with minimal delays. I also agree that there is sufficient room within the road reserve to install a right turn lane should that be required in the future.

34. Submission #12 addresses traffic generation on neighbouring streets and submission #14 addresses the same for Broadmeadows Drive specifically. Broadgate Street, Broadmeadows Drive, and Reeds Road are local roads that currently end at the boundary between the current Darfield urban area and the PC63 site. These are all currently cul-de-sacs serving a small number of households, and are proposed to be extended to provide vehicular access to the site along its southern boundary. The SDC traffic volume spreadsheet has recorded 19 vehicles per day on Broadgate Street, 18 vehicles per day on Reeds Road and 40 vehicles per day on Broadmeadow Drive.

35. The Novo Group Additional Transport Assessment estimates that Broadgate Street and Broadmeadows Drive are anticipated to see an increase of 100 vehicles per hour in the peak hour. This is equivalent to an additional vehicle approximately every 36 seconds on each road. Reeds Road is anticipated to see an increase of 31 vehicles per hour in the peak hour and is equivalent to an additional vehicle approximately every 116 seconds. While this is a proportionally large increase over existing traffic volumes and I do not disagree that it will change the nature of these current cul-de-sacs, I consider the total volumes with the development to be well within the capacity of these corridors and intersections. The additional traffic is unlikely to result in adverse effects with respect to the safe and efficient operation of this corridor or intersections along the corridor.

36. Submissions #12 and #13 raise concerns about the effect of the PC on parking availability in Darfield. The ITA does not address parking either in the Plan Change Site or in the wider Darfield area. Parking is unlikely to be an issue on residential streets due to the absence of major trip attractors in the area. Demand for parking in the wider area will be reduced by SDC's proposed pedestrian improvements to the McMillan Street, Mathias Street and Perrin Place level crossings, which will encourage the uptake of walking and cycling as the Plan Change site is within 600 metres to 1.5km from the main commercial area in Darfield.

Work and education travel patterns

37. Waka Kotahi states in their submission #10 that the PC should be considered against the updated Greater Christchurch Urban Development Strategy (UDS) provisions. I defer to Ms Carruthers on this matter. However, I note that although Darfield is outside the subject area of the UDS, the proposal may compete with residential demand within the UDS boundary due to its location and the draw of the UDS area for employment opportunities.

38. Using Statistics NZ 2018 Census journey to work data (see Attachment A), I have calculated that approximately 52% of Darfield residents leave the town for walk with 36% of residents travelingl to the UDS area for work. Approximately 44% of persons working in Darfield jobs live outside the Darfield urban area with 10% living in the UDS area. This demonstrates that there is some interdependence between Darfield and the UDS area. I also note that my assessment is inconsistent with that presented by the Applicant and elaborate on this matter in the following paragraphs.

39. The Novo Group response to Waka Kotahi's submission dated 21st December 2020 and 24th February 2021 included an assessment of travel data taken from the 2018 census. In paragraph 15 of the 24th February response Ms. Williams states that *"there is significantly greater travel into Darfield for work than out of it"* and that *"these existing travel patterns do not suggest the proposal would contribute negatively in respect of private vehicle travel compared to growth in other centres within the UDS area"*. I have reviewed the underlying travel data sourced from Waka Commuter (https://commuter.waka.app/) and concluded this assessment is based on an amalgamation of journey to work and journey to education data. I have separated out the work and education data and presented this Attachment B for the Darfield Statistical Area (known as an SA2 area) which approximates to the town's urban boundary. I note that approximately 90% of education travel originating in Darfield is internal to the township, and nearly two thirds of arrivals to Darfield are for school rather than work. Because the Plan Change itself will not generate incoming school trips (unless a school is established at some stage in the future requiring its own designation process) the amalgamated data is not representative of the behaviour specific to the Plan Change site.

40. In paragraph 38 of the 24th February response an additional concern raised by Waka Kotahi recommending that work and education travel be separated is addressed by Ms. Williams stating *"It is noted that these trips could be considered separately however both are key weekday travel destinations and as such the conclusions remain the same"*. Based on my assessment of the Waka Commuter data, I disagree with this statement. I have included screen captures of data from Waka Commuter in Attachment B. This shows that of people who currently live in Darfield, 462 (48.3%) also work in Darfield and 495 (51.7%) travel to work outside of Darfield, and I would expect a similar distribution to apply to residential trips generated by the plan change.

41. Waka Kotahi state in their submission that the proposed plan change does not support multi-modal transport options, particularly as retail and commercial development in Darfield is limited, and thereby does not support emission reduction targets. The travel data analysis demonstrates that if the Plan Change were to be approved and development occur, I would expect an increase in travel between Darfield and the UDS and other outlying areas due to the currently limited employment opportunities and retail and commercial offerings in Darfield. There would be a corresponding increase in vehicle-related emissions.

42. However, I consider that this site is very well-connected to support the uptake of walking and cycling modes and there is nothing precluding the provision of improved public transport services. I also am of the view that as Darfield expands there may be more opportunity for additional commercial and retail development that would provide local employment and have the potential to reduce the quantum of travel outside of the urban area.

Conclusions

43. I have assessed the application against the policies and objectives of the CRLTP and CRPTP, reviewed the Integrated Transport Assessment and subsequent transport-related documents prepared by the applicant team, and considered submissions on the Plan Change. I have concluded that:

    a. The application is not inconsistent with Regional objectives and policies including those relating to multi-modal transport.

    b. The LCSIA report and inclusion of level crossing upgrades within the draft Selwyn LTP addresses submitter concerns relating to the level crossings.

    c. Work undertaken subsequent to the ITA provides an appropriate assessment addressing concerns raised through submissions relating to the operation of SH73 and the local network, although I note that the cumulative effects of PC63 and other development areas on these intersections have not been specifically addressed.

    d. Analysis of Statistics New Zealand travel data demonstrates the Darfield urban area is a catchment for education travel but relies on the UDS area for employment with over 50% leaving Darfield for work.

44. In conclusion, I support this plan change application from a transport perspective subject to the following matters being addressed as matters of discretion within an Integrated Transportation Assessment for any future subdivision consent application in the Plan Change area:

    a. Safety for all modes at existing level-crossings in the Darfield urban area.

    b. Operation of State Highway 73 intersections with Matthias Street and McMillan Street.

Dave Smith

30 June 2021

ATTACHMENT A Assessment Against Regional Policies and Objectives

Canterbury Regional Public Transport Plan (CRPTP)

Objectives and Policies	Comments
Policy Area 1: The network - services, infrastructure and supporting measures	
Objective 1C Improved access and freedom of travel for people whose needs are not met by, or who are unable to use, the regular public transport system.	There are currently no publicly-funded alternatives to the regular public transport system in Selwyn District. The proposed plan change does not prevent these services being provided in the future.
Policy 1.6 Specialist services Provide specialist services, such as school services and peak express services, according to demand.	There are limited specialist public transport services in Selwyn District. The proposed plan change does not preclude these services being provided in the future. The proposed plan change site is within 600 – 1500m of local schools and therefore minimises the need for school services.
Policy 1.7 Total Mobility service Provide the Total Mobility service so that transport services are available for the mobility impaired who have difficulty with, or are unable to use, regular scheduled services.	I understand that the Total Mobility service is not available in Darfield.
Policy 1.8 Community transport services Provide funding support for: • Community transport services to meet the needs of communities that cannot sustain a regular public transport service. • Specialist services not provided by the regular public transport services for an area.	There is no community transport service in Darfield. The proposed plan change does not prevent these services being provided in the future.
Policy 1.9 Regional connections Investigate the feasibility, costs and funding options for the provision of services to connect communities outside of the Greater Christchurch and Timaru urban areas, where there is strong community support and where it is cost effective to do so.	The proposed plan change will increase the feasibility of providing additional services to connect Darfield to Greater Christchurch.
Policy 1.12 Services to areas of new development Enable timely and cost effective public transport to new areas of urban development, in accordance with the following criteria: • Planned eventual size of the development will support the provision of public transport. • Cost, patronage and revenue projections indicate that the service will be financially viable in the long term. • Infrastructure is designed and planned to support the service provision	The proposed plan change will increase the feasibility of providing additional services to connect Darfield to Greater Christchurch by increasing the size of the catchment.
Objective 1D: To support compact urban form and multi-modal journeys, the delivery of public transport is	The plan change site is well connected to the Darfield town centre bus stop which is served by service 86. Public transport provision in Selwyn District is generally

Objectives and Policies	Comments
integrated with land use development, quality infrastructure, and innovative technology.	low and so this represents a high level of access compared to other locations in the district. The proposed plan change will not prevent the provision of further public transport services within Darfield and will in fact make future extension of services more viable.
Policy 1.15 Integration of public transport with land use	See above.

Canterbury Regional Land Transport Plan (CRLTP)

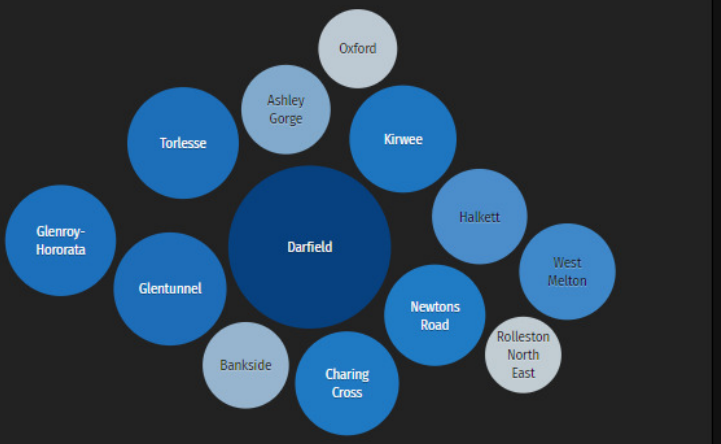
Objectives and Policies	Comments
Objective: Shared Prosperity (environmental, social, economic and cultural)	
Ensure future transport investment supports intergenerational prosperity	The proposed plan change is not inconsistent with this.
Improve uptake of active and public transport to support improved public health	There is adequate walking infrastructure connecting the plan change site to Darfield town centre and the Darfield schools, which are within 600 – 1500m. This is a walkable distance and the site is thus well located to maximise active transport for local trips. There is limited public transport in Darfield. The peak service 86 to Christchurch is accessed from the town centre which is accessible from the proposed plan change site. The plan change does not prevent future improvements to the public transport network in Darfield.
Transition to a low carbon transport system by moving people and goods efficiently	The proposed plan change is not inconsistent with this.
Objective: Reduced Harm	
Prioritise investment to align with the Road to Zero strategy	The proposed plan change is not inconsistent with this.
Prioritise the safety of vulnerable transport users, in particular cyclists and pedestrians	The proposed plan change is likely to increase the volume of vehicular traffic on the local road network in Darfield. However, existing pedestrian infrastructure is in place to accommodate this. SDC proposes to upgrade existing pedestrian level crossings which will benefit active trips generated by the site.
Provide a safe transport network by prioritising maintenance and renewals	The proposed plan change is not inconsistent with this.
Objective: Reliable and consistent journeys	
Reduce congestion through mode shift from single occupant vehicles to shared and sustainable modes	The plan change site is well located to maximise travel by sustainable modes for local trips. The town centre is within walking and cycling distance.
Objective: Mode shift	
Improve the attractiveness of sustainable transport options through integrating land use and transport planning and investment	The plan change site is within 600 – 1500m of Darfield town centre and will be integrated with existing the existing walking network. There is not a high availability of land within walking distance of local centres in Selwyn District so this is an appropriate location for residential development.
Improve access to sustainable transport modes	The proximity of the plan change site to Darfield town centre and the walking links between them makes sustainable transport modes accessible for local trips.

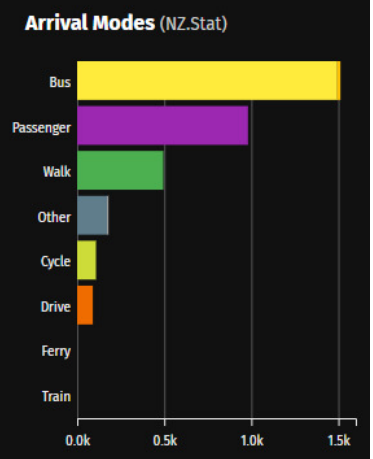
ATTACHMENT B Waka Commuter Travel Data from 2018 Census

Journey to Education Data

Arrivals

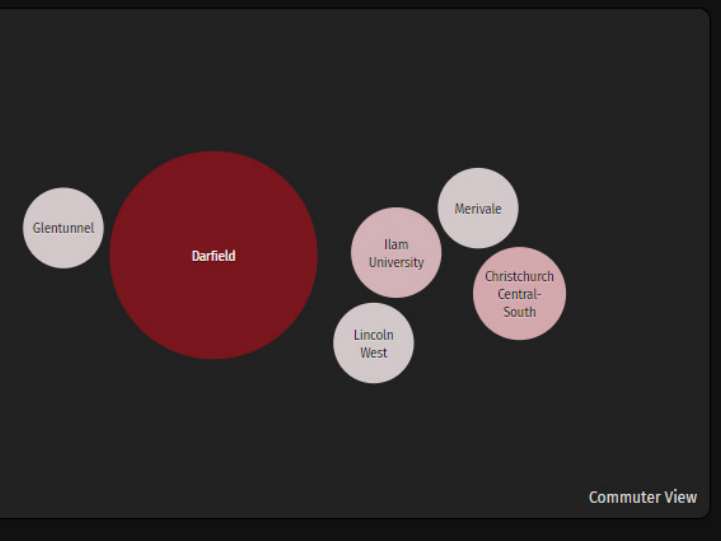
660 people travel to Darfield for school (60%), while 435 people (40%) also live in Darfield. People arrive from 12 different areas, the largest share being Glentunnel (105 people—10% of arrivals). The most common way to arrive to for school is to take a school bus (44%).

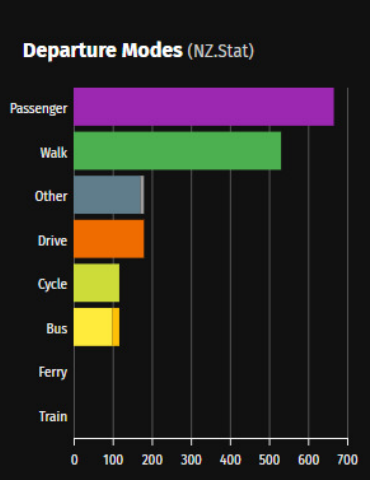




Departures

51 people (10%) leave Darfield to 5 different areas for school. Christchurch Central-South, with 18 departures (4%) is the top destination outside of Darfield. To depart to for school, people in Darfield most often are passengers in a car, truck, van, or company bus (37%).

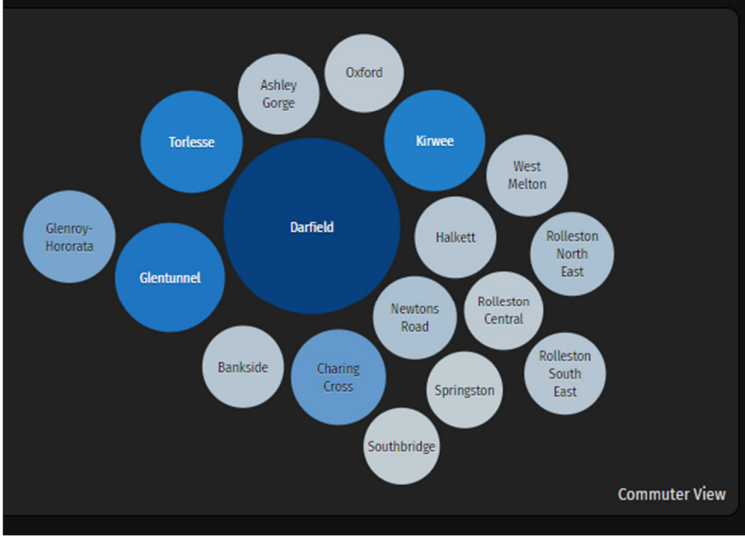


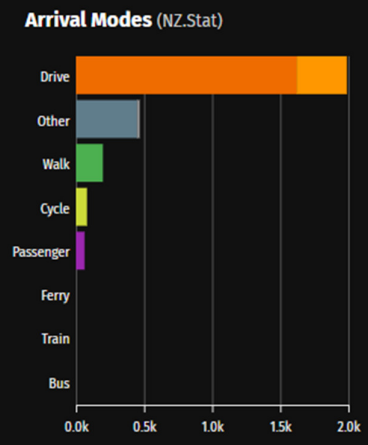


Journey to Work Data

Arrivals

369 people travel to Darfield for work (44%), while **462 people (56%)** also live in Darfield. People arrive from **16 different areas**, the largest share being **Glentunnel (78 people—9% of arrivals)**. The most common way to arrive to work is to **drive a private car, truck or van (58%)**.





Departures

495 people (52%) leave Darfield to **33 different areas** for work. **Glentunnel**, with **45 departures (5%)** is the top destination outside of Darfield. To depart to work, people in Darfield most often **drive a private car, truck or van (62%)**.