

Transport Comments on Plan Change 67 to the Selwyn District Plan

Prepared for: Liz White, Liz White Planning
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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 67 (PC67) to rezone approximately 33.7 hectares located South of West Melton from Rural Inner Plains to Living WM South 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. Attachment 2: Proposed Outline Development Plan

- b. Attachment 3: Section 32 Evaluation prepared by Novo Group
 - c. Appendix D: Integrated Transport Assessment (ITA) by Stantec Ltd, dated 9 October 2020.
 - d. Submissions (with submission numbers indicated) addressing transport-related matters from the following parties:
 - i. Wendy Beavan (submission #3);
 - ii. Julie Manera (submission #4);
 - iii. Winston and Kristina Posthuma (submission #5);
 - iv. Christchurch City Council (submission #6);
 - v. Helen P Stevenson (submission #7);
 - vi. Elene (Helen) Anderson (submission #9);
 - vii. Waka Kotahi NZ Transport Agency (Waka Kotahi) (submission #10); and
 - viii. Canterbury Regional Council – Environment Canterbury (submission #11).
 - e. Draft urban design evidence prepared for Selwyn District Council by Mr Hugh Nicholson.
7. I have undertaken a site visit on 26 July 2021 in relation to this application and observed the local traffic environment.
8. I have prepared evidence in relationship to:
- a. Review of the Integrated Transport Assessment and related matters in the Section 32 Report; and
 - b. Matters raised through submissions.

Review of Integrated Transport Assessment

9. I have reviewed the Integrated Transport Assessment report which I consider to be an appropriate level of assessment for a development of this scale. There are seven matters I have addressed as follows:
- a. Access sight distance
 - b. Road safety
 - c. Traffic growth
 - d. SH73 intersection upgrade
 - e. Traffic generation
 - f. Traffic distribution

- g. Intersection traffic modelling
- h. Walking and cycling assessment
- i. Planning requirements

Access Sight Distance

10. The proposed Plan Change includes a new access onto Weedons Ross Road located approximately 210 metres to the southeast of a bend in Weedons Ross Road.
11. Assuming 5m back from the current seal edge (in line with Austroads Guide AGRD-Part4A Figure 3.2 as below) there is 210m of sight distance to the NW as detailed in the ITA. I have checked and agree with the Safe Intersection Sight Distance (SISD) assessment undertaken which concludes that the minimum requirement is met based on an 80 km/h design speed. I note that the current speed environment is 100 km/h as shown in Photograph 4 of the ITA and I would expect that the speed environment along this corridor should be reduced as the urban area continues to develop.
12. I have referenced Waka Kotahi's Speed Management Framework and MegaMaps tool to understand the appropriateness of reducing the speed along Weedons Ross Road. The MegaMaps tool is used by Waka Kotahi and other Road Controlling Authorities to provide an assessment of the Safe and Appropriate Speed (SaAS) of each road link on New Zealand's road network based on road safety risk in alignment with the Speed Management Framework. The SaAS is based on establishing the speed which is appropriate for each corridor based on the road function, design, safety and use of the corridor. Figure 1 shows that the SaAS in the vicinity of the Plan Change site and shows Weedons Ross Road has a SaAS of 80 kph, which is lower than the current 100 kph posted speed.

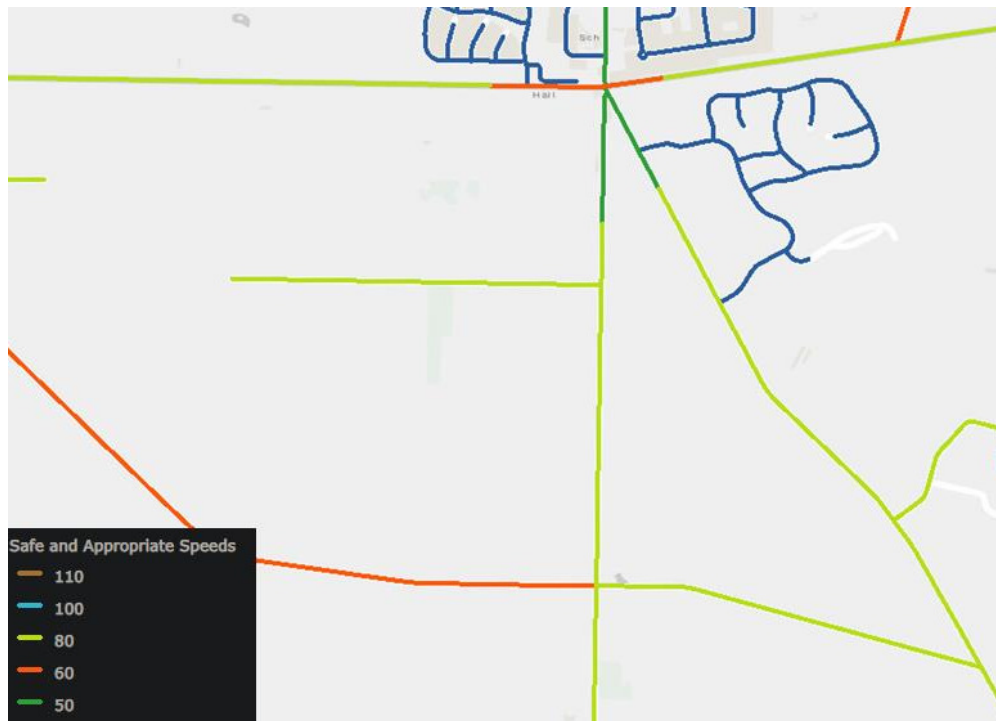


Figure 1 Safe and Appropriate Speed from MegaMaps

13. I am of the view that should the Plan Change be approved, the speed environment along Weedons Ross Road should be reviewed. Whilst this is not a matter under the applicant's control, I encourage the relevant Road Controlling Authorities to undertake a speed limit review which is increasingly important as the local environment becomes more urbanised.

Road Safety

14. Road safety in the vicinity of the Plan Change site is addressed in section 5 of the ITA, where reported road crashes from Waka Kotahi's Crash Analysis System (CAS) between 2015-19 are presented. I have updated the CAS assessment to include 2020 and 2021 year-to-date and note there are two more crashes to the south of the Plan Change site along Weedons Ross Road and no new crashes to the north.
15. The first crash involved a small truck which did not look properly before doing a U turn, and the second occurred at the Weedons Ross / Newtons Road intersection where a driver failed to give way. On review I do not consider that there are any underlying road safety matters relating to the local road environment. I

SH73 Intersection and Weedons Ross Road upgrades

16. In section 6.4 of the ITA it is noted that the SH73 / Weedons Ross Road intersection is to be upgraded to traffic signals as part of the New Zealand Upgrade Programme (NZUP) of works. Details of this are available at <https://www.nzta.govt.nz/projects/sh73-west-melton-improvements/> with the most recent project update confirming that the project is intended to be constructed over summer 2022/23 and includes:

- a. traffic signals at the intersection (including pedestrian crossing phases)
- b. a new road linking Weedons Ross Road with West Melton Road (to the south of St Paul's Church)
- c. a new roundabout at the intersection of the link road with Weedons Ross Road opposite Kingsdowne Drive, and
- d. shared paths for pedestrians and cyclists.

17. An excerpt from the publicly available information sheet is shown in Figure 2:

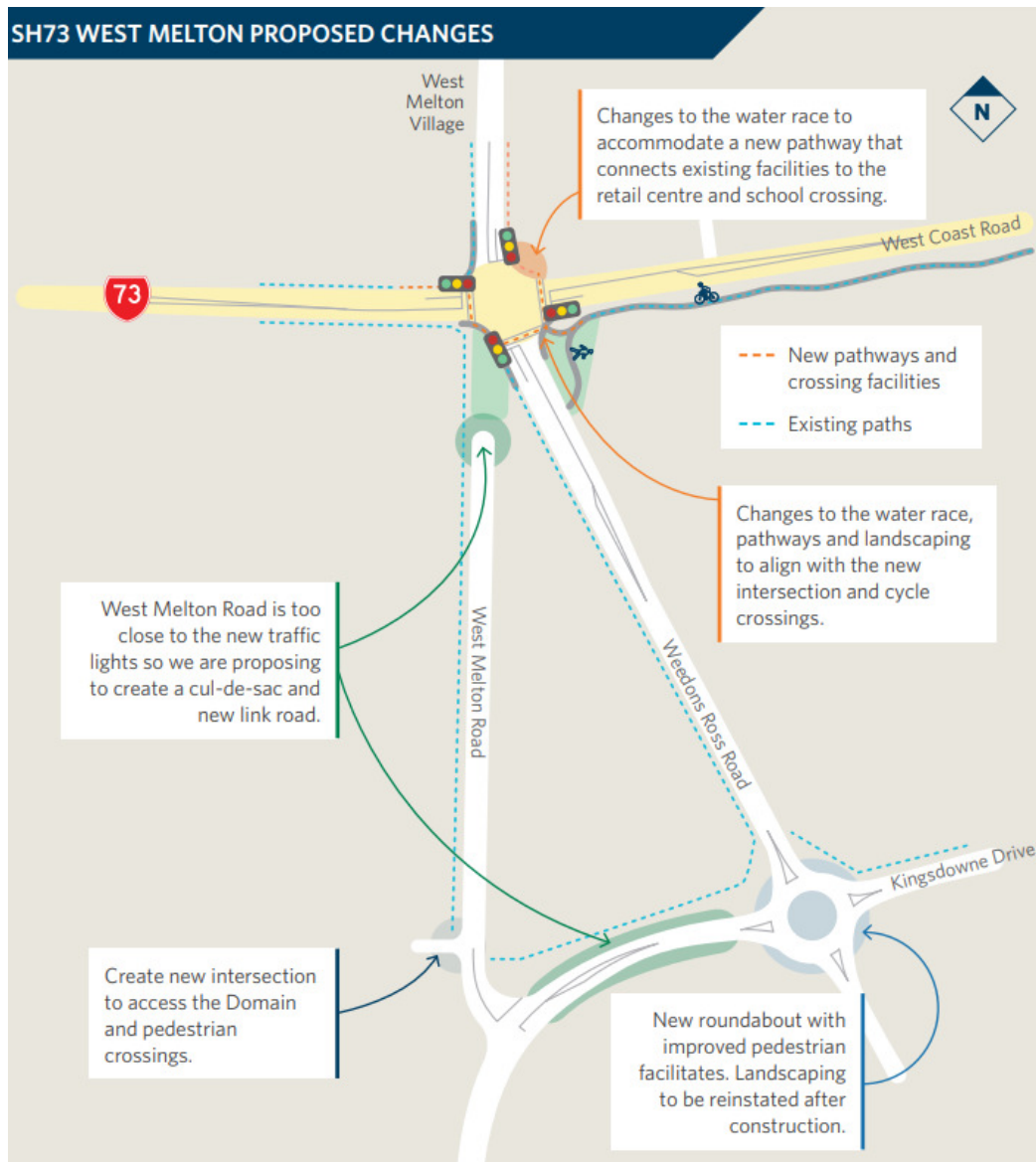


Figure 2 SH73 West Melton Proposed Roading Changes

18. Based on the intended timing of the construction and commitment to funding it is reasonable to assume that the project will be delivered prior to substantial development of the Plan Change site. I agree with the concern raised in Waka Kotahi's submission relating to development occurring prior to this intersection upgrade. I support their subsequent recommendation that controls be put in place to restrict development from taking place until such time as the signals and associated improvements are complete and operational.
19. In section 6.3 of the ITA the Weedons Ross Road seal widening project is detailed. I note that this project is included in the 2021/31 SDC Long Term Plan (LTP) with \$250k budgeted for upgrades to Weedons Ross Road. I understand from discussion with SDC staff that (at the time of writing) this is in the process of going out to tender for construction.

Traffic Growth

20. In section 4.1 of the ITA the daily traffic volumes at key count locations is presented. The Waka Kotahi traffic count station 07300013 SH73 to the east of Dawsons Road is the closest count station to the Plan Change site. The 2018 average annual daily traffic volume was 9,400 which increased to 13,300 in 2019 (as correctly stated in the ITA) and dropped away to 10,250 in 2020 most likely as a result of reduced travel due to COVID-19. There is some uncertainty as to the growth in traffic along the State Highway corridor, but it is evident that in the two years since 2018 traffic has increased by $(10,249 - 9,424) / 9,424 = 8.8\%$ which is approximately 4.4% per annum. The ITA notes that traffic growth to the west of West Melton has grown by 3.3% per annum.
21. The future planning and design of the SH73 Weedons Ross Road intersection will require consideration of growth in State Highway traffic as well as the cumulative effects of local development (including PC59 which was recently approved).
22. Section 9.2 of the ITA presents an intersection model of the operation of the proposed signalised intersection and makes a provision for 15% growth in SH73 through traffic which equates to up to five years of growth based on the extrapolation of 2018-2020 traffic volumes. The Waka Kotahi Integrated Transport Assessment guidelines recommend the assessment of the impacts of 10 years of future growth for Plan Changes¹. There is some likelihood that background traffic growth over the next 10 years will exceed the 15% growth modelled and may be in the order of 30%, and I have undertaken modelling presented in paragraph 33 to understand the impact of this higher growth on intersection performance.

Trip generation rate

23. Section 8.2 of the ITA presents an assessment of the likely traffic generation of the Plan Change site, using a trip rate of 6 trips per dwelling per day and assuming that 10% of this trip generation rate occurs in peak hour. This is in my view considerably lower than typical trip rates applied elsewhere however I note that it is consistent with the Plan Change 59 assessment.

¹ Refer to section 5.5.3 of NZ Transport Agency (now Waka Kotahi NZ Transport Agency) Research Report 422

24. The RTA Guide to Traffic Generating Developments² recommends 0.85 vehicles per dwelling in peak hour. I consider that this range is appropriate and there is a risk that a lower rate of 0.6 would understate the impacts of the development.
25. I further note that for the recent PC61 residential private plan change in Darfield, a trip generation rate of 0.85 – 0.90 vehicles per hour per residential unit was assumed. 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 am of the view that the impacts of the development and of PC59 may be understated in the ITA.
26. I revisit this matter later in evidence wherein I undertake further modelling assessment on the SH73 intersection with Weedons Ross Road.

Trip Distribution Assessment

27. Section 8.2 of the ITA presents an assessment of the likely distribution of traffic from the site across the wider network. I have undertaken my own assessment of Statistics New Zealand 2018 Census Travel to Work and Travel to Education data sets from the Waka Commuter website³. The corresponding Waka Commuter outputs are included here as Attachment A.
28. I have concluded there is some self-sufficiency within West Melton for trips to the local school, residents working from home and interactions with the town centre. The school and town centre are on the north side of SH73 so any interactions would increase the potential for through traffic crossing SH73 at the proposed signals.
29. I have analysed commuter trips to Christchurch and Rolleston against typical commuter peak hour travel times from Google Maps to understand whether these are more likely to travel via SH73 or via Weedons Ross Road. The recent completion of the Christchurch Southern Motorway (CSM) has resulted in an improvement in travel times from West Melton to Christchurch via Weedons Ross Road and CSM, and this is an attractive route for PC59 and PC67 traffic visiting central and southern Christchurch. The distribution of traffic based on my assessment following this analysis is shown in the following table alongside the ITA assessment with the morning (AM) peak being a weighted average of work and education travel, and evening (PM) peak being based on work travel only. It is further assumed that 50% of trips within West Melton could be walked/cycled or would correspond to employees working from home. The proportion of trips to Christchurch via SH73 is much less dropping from 65% to around 30%.

Trip Destination	Revised AM Peak Distribution	Revised PM Peak Distribution	Assumed in ITA
West (towards Darfield)	6%	2%	5%
North (towards West Melton schools/commercial area)	18%	12%	5%
South (towards Rolleston)	9%	10%	25%

² Refer to section 3.3.1 of <https://roads-waterways.transport.nsw.gov.au/business-industry/partners-suppliers/documents/guides-manuals/guide-to-generating-traffic-developments.pdf>

³ <https://www.stats.govt.nz/tools/commuter-waka-2018-census-data-visualisation>

South (towards Christchurch via SH1/74)	34%	46%	
East (towards Christchurch via SH73)	32%	30%	65%

Table 1 Revised distribution of Plan Change traffic

Intersection Modelling Assessment

30. I have undertaken a sensitivity test of the modelling presented in section 9.2 of the ITA using Sidra Intersection software to consider a higher trip rate of 0.85 trips per dwelling in peak hour, and the alternate distribution of traffic based on my assessment presented in Table 1.
31. The ITA models were replicated to ensure consistency with the previous assessment and include the same intersection layout and phasing assumptions. There is an overall increase in traffic generation due to the higher trip rate with the 252 lots from PC59 generating 215 trips in peak hour (was 150 in the ITA) and the 131 lots from PC67 generating 111 tips in peak hour (was 80 in the ITA). However, the revised trip distribution reduces the reliance on the proposed traffic signal by the combined development south of SH73 with a marked reduction in vehicles from the south turning right onto SH73. I have compared my sensitivity test with the ITA results in Table 2.

Scenario	Reported in ITA			Revised Trip Rate and Distribution		
	Degree of Saturation	Average Delay (s)	Level of Service	Degree of Saturation	Average Delay (s)	Level of Service
AM Peak Baseline	0.911	34.1	C	0.928	35.2	D
PM Peak Baseline	0.905	37.6	D	0.864	34.7	C
AM peak with PC67	0.857	35.9	D	0.902	37.3	D
PM peak with PC67	0.906	39.2	D	0.890	37.2	D

Table 2 Intersection Modelling Sensitivity Test Results

32. The results show that the sensitivity test modelling is comparable to the results presented in the ITA. The revised distribution places higher demands on Weedons Ross Road south of the site, however the scale of change is considered acceptable with trips increasing from 20 two-way trips in the ITA to 35-45 trips. The intersection performance in terms of delays and level of service is considered to be appropriate both in the ITA and under the sensitivity test.
33. I have further tested the performance of the intersection based on my concerns that the background growth calculated and assessed in the ITA may be underestimated. I have added a further 15% growth (so assumes 30% background growth in total) in through traffic and note that the average intersection delays only increase by a further 2-4 seconds and LoS remains at D which is appropriate for peak hour performance.
34. I conclude that the proposed signals at SH73 / Weedons Ross Road have sufficient capacity to accommodate PC59 and PC67 traffic as well as ten years of likely future growth in SH73 through traffic.
35. I further note that based on the extent of the current road reserve at the intersection, a higher capacity intersection than that modelled both in the ITA and my assessment could be accommodated to further futureproof for growth.

Walking and Cycling Assessment

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36. I have assessed walking and cycling routes between the plan change site and the town centre and note that the Outline Development Plan (ODP) included as Figure 16 in the ITA differs from the proposed ODP included as Attachment 2 to the application. The ODP in the ITA provides connectivity through the internal link to Wilfield which connects pedestrians and cyclists to an off-road path running adjacent to Weedons Ross Road. This Plan Change intends to deliver the shared path from the northern boundary of the site to the future shared path to be delivered as part of the SH73 / Weedons Ross Road upgrade (shown in Figure 2). The Attachment 2 ODP proposes to connect to future shared paths within PC59 area and also establish a shared path along Weedons Ross Road between the access and Kingsdowne Drive.
37. I have assessed the walk and cycle connectivity in the Transport Plan from the ODP and support the linkages connecting to shared paths in the adjacent PC59 area as this provides connectivity to the town centre through a series of off-road paths in a relatively low speed environment. In my view this would be less direct to access the town centre, school and current bus stop location compared to a continuous shared path along Weedons Ross Road. The shared path in the ODP along Weedons Ross Road between the access and Kingsdowne Drive terminates at the southern Kingsdowne Drive intersection as shown by the green line in Figure 3.
38. I have safety concerns about the potential use of the Weedons Ross Road shared path by pedestrians and cyclists in the absence of a safe and continuous facility along the remainder of Weedons Ross Road especially given the high-speed environment along the corridor. I strongly recommend that should the Plan Change be approved, the shared pedestrian/cycle path in the ODP along Weedons Ross Road be extended to connect to the future Waka Kotahi shared path. This extension is represented by the orange line in Figure 3. This will provide a high-quality, direct and consistent facility for walk and cycle access from PC67 to the township, as well as to current and potential future public transport opportunities, better meeting the needs of these modes.



Figure 3 Location and extent of Proposed Shared Path

39. There are currently no adequate routes between the Plan Change site and town centre until the proposed Waka Kotahi SH73 West Melton Improvements are installed as part of the New Zealand Upgrade Programme of works. This will provide crosswalks to access the commercial centre, school and other destinations to the north of SH73. Currently there is one pedestrian refuge across SH73 located approximately 170-180 metres to the west of the Weedons Ross Road intersection. This will provide the opportunity for pedestrians travelling between the West Melton commercial centre and the plan change site to safely cross SH73 and access bus stops which are located on the north side of the intersection. There is a risk that this shared path shown on

Figure 2 (and in blue on Figure 3) may not be delivered by the final and implemented design of the SH73 / Weedons Ross Road intersection works. I am of the view that the full shared path should be implemented to ensure there is full connectivity between the Plan Change site and the West Melton town centre and school. This should extend to consideration of a safe crossing of Weedons Ross Road so that the proposed extension of the shared path on the east side of the corridor (in orange) connects to the Waka Kotahi shared path on the west side (in blue). As such I recommend that the blue, orange and green segments should all be delivered to provide a continuous connection to the town centre, prior to development occurring on the Plan Change site.

40. The design and construction of the future planned Waka Kotahi works and shared path facilities (delivered either by Waka Kotahi or as part of the future development on the Plan Change site) along Weedons Ross Road would both require safety audits at design and post-construction stages. This is a requirement under section 8.4.2 of the Selwyn District Council Engineering Code of Practice⁴. The safety audits are required to follow Waka Kotahi procedures⁵ and would be expected to address the safety of all modes including pedestrians and cyclists of all abilities. I would also expect Waka Kotahi to undertake safety audits at preliminary design, detailed design and post-construction stages for their own works in the vicinity as per their Road to Zero Speed and Infrastructure Programme Design Framework. In my view this is a satisfactory mechanism to ensure that the future shared path is designed and implemented with the safety of all users in mind.
41. There is currently no dedicated cycling network in West Melton therefore cycling is limited to the road network. SDC's Walking and Cycling Strategy Action Plan⁶ has scope for a West Melton to Rolleston, West Melton to Kirwee and West Melton to Waimakariri River Park Cycleway and notes that each project will be progressively confirmed through LTPs. I note that none of these projects are funded under the SDC LTP 2021-31 but consider that when constructed they provide a longer distance travel option, particularly to Rolleston as the nearest District centre.
42. The Plan Change site is located in relatively close proximity to the current retail and commercial centre of West Melton which will be accessible via an approximate 1.3km (for nearest lots) to 2.8km (for southernmost lots) walk or cycle trip to reach SH73. This approximates to a 15–35 minute walk (assuming typical walking speed of 4.5 kph) or a 5–10 minute cycle ride (assuming typical cycle speed of 15 kph).
43. I note that Mr Nicholson has more specifically considered the relevance of walkable distances, and in particular the relationship between walkable catchments and urban form in section 6 of his evidence and prepared his own assessment of pedestrian connectivity and walkability in section 7 of his evidence. The distinction between our evidence is that I have considered how provision for safe and direct infrastructure for walking and cycling can be made, to support the uptake of these modes. In my view, this can be delivered through providing a continuous high-quality shared path between the Plan Change access road and the signalised intersection on SH73 as shown in Figure 3. However, Mr Nicholson has more specifically considered whether these facilities would actually be utilised, given the location of the site and its proximity to other facilities.

Planning Requirements

⁴ <https://www.selwyn.govt.nz/property-And-building/resource-consent/subdivision/code-of-practice>

⁵ <https://www.nzta.govt.nz/resources/road-safety-audit-procedures/>

⁶ https://www.selwyn.govt.nz/_data/assets/pdf_file/0004/282568/Final-2018-Walking-and-Cycling-Action-Plan_v3-Adopted.pdf

44. I have reviewed the assessment in chapter 10 of the ITA against transport-related provisions of District and Regional planning documents. While I am generally comfortable with the assessment against the objectives and policies of the Selwyn District Plan, there is an opportunity to further support policies B2.1.13, B2.1.14 and B2.1.15 through the extension of the shared path facility discussed in paragraphs 37-38 of my evidence. The provision of the shared path would also further support the safety intent of policy B2.1.11 and integration with public transport required under policy B2.1.15.
45. Christchurch City Council and Environment Canterbury submissions raise concerns about alignment with the Canterbury Regional Policy Statement (CRPS) and National Policy Statement – Urban Development (NPS-UD). I have addressed these matters in paragraphs 52-62 of my evidence.

Matters raised in submissions

46. I have addressed transport-related submissions with my responses grouped into topics to assist in providing a comprehensive response. The specific submissions are those submitted by *Beavan (#3)*, *Manera (#4)*, *Posthuma (#5)*, *Christchurch City Council (#6)*, *Stevenson (#7)*, *Anderson (#9)*, *Waka Kotahi NZ Transport Agency (#10)*, and *Canterbury Regional Council – Environment Canterbury (#11)*.

Traffic Generation

47. Submissions #3, #4, #5 and #7 raise concerns that increased traffic generation will adversely affect the network.
48. Submission #3 notes that traffic will increase on busy narrow rural roads. I consider that the main corridors that will experience an increase in traffic are Weedons Ross Road and the State Highway network. As noted in paragraphs 16-19 there are planned works to widen Weedons Ross Road to better accommodate future traffic demands and State Highway intersection works planned. Submission #4 broadly raises concern that current traffic levels should not be increased further. I see no effects-based reason to support this concern. Submission #7 is concerned about the stress on local and state roads and potential lack of funding to address this. I understand both the Weedons Ross Road and State Highway intersection upgrades are committed and funded and am of the view that they will appropriately manage the increase in traffic associated with the development.
49. Submission #5 is prepared by the occupant of 581 Weedons Ross Road and is concerned with increasing traffic making it difficult and dangerous to exit their driveway. The submitter seeks for the entrance to be moved 20 metres further away (to the south). I note that the submitter's driveway is located very close to the bend in the road approximately 210 metres to the north of the new access. I have consulted SDC's April 2021 traffic count database and note the most recent count at this location is 1440 vehicles per day which is approximately 140-150 vehicles in peak hour. With the addition of PC59 and 67 traffic I estimate that the traffic volume at this location will approximately double to in the order of 300 vehicles two way per hour. This is in my view well within the capacity of the road corridor and corresponds to one vehicle on average every 12 seconds (two way) which provides generous and frequent gaps to enter the traffic stream. As per my access sight distance assessment in paragraphs 10-13, I am of the view that the access is an appropriate distance from this bend subject to a reduction in the speed along the corridor to 80 km/h.

Network Effects based on the Signalised Intersection

50. Submission #9 and #10 have stated that if the plan change is approved prior to the signalisation of the SH76 and Weedons Ross Road intersection then the current traffic related effects will be further exacerbated. As per paragraphs 16-18 of this statement of evidence, this upgrade is committed and funded as part of the New Zealand Upgrade Programme of works.
51. Based on the intended timing of the construction and commitment to funding through NZUP, it is reasonable to assume that the project will be delivered prior to substantial development of the Plan Change site. I agree with Waka Kotahi's recommendation that controls be put in place to restrict development from taking place until such time as the signals and associated improvements are complete and operational. I understand that this was addressed through plan change rules for the neighbouring PC59 site and support the same rules being applied to PC67.

Public Transport and Vehicle Dependency

52. Submissions #6 and #11 from Christchurch City Council and Environment Canterbury respectively, raise concerns over PC67 being inconsistent with the CRPS and NPS-UD.
53. Submission #11 concludes that the Plan Change does not achieve the "*wider transport network and land use integration outcomes sought by Objective 6.2.4 and Policies 6.3.4 and 6.3.5*" in the CRPS. Policies 6.3.2(3) which requires residential development to give effect to "*the provision of efficient and safe high quality, barrier free, multimodal connections within a development, to surrounding areas, and to local facilities and services, with emphasis at a local level placed on walking, cycling and public transport as more sustainable forms transport*" and 6.3.3(8) which states development should "*demonstrate how effective provision is made for a range of transport options including public transport options and integration between transport modes, including pedestrian, cycling, public transport, freight, and private motor vehicles*" are also cited.
54. Currently there is only one public transport route that services West Melton, mostly following State Highway 73 that extends to Darfield shown in Figure 4. I recognise that the plan change site will have increased active mode connectivity to the bus stops located in the West Melton commercial centre when the proposed Waka Kotahi SH73 West Melton Improvements are installed. I understand that there are no further proposed public transport services to West Melton planned at this stage.

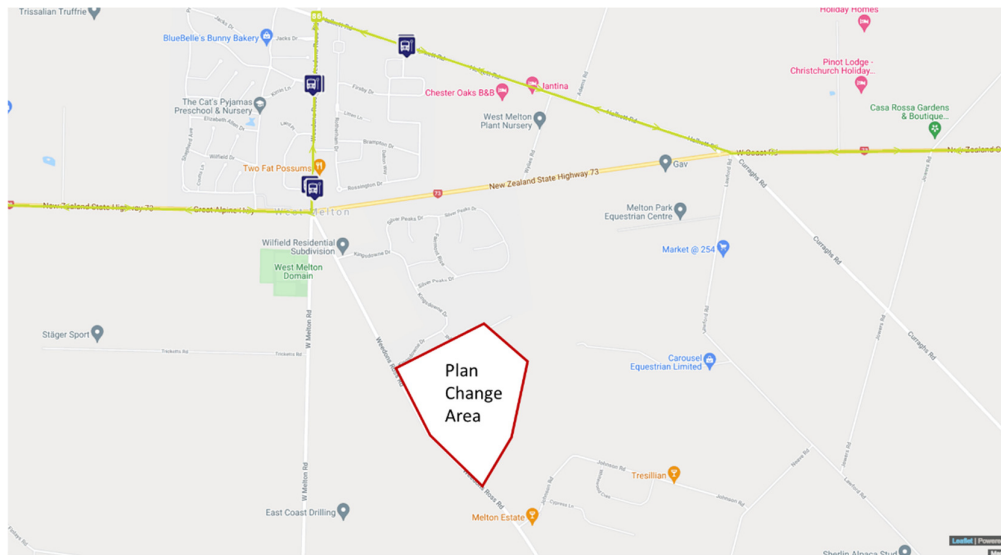


Figure 4 Bus routes and bus stops in respect to the PC67 location

55. As the surrounding area is still developing and West Melton has a relatively low population base, the existing level of public transport provision nearby is limited. However, the site can be developed to enable good access to public transport if provided along Weedons Ross Road at some stage in the future to connect West Melton to Rolleston and/or the services to Christchurch via SH73. Ensuring there is a high standard of access for walking across the site and to Weedons Ross Road will be key to integration with potential future public transport opportunities. I note that there would likely need to be a sufficient residential catchment in the vicinity prior to a dedicated service being provided by the Regional Council.
56. I have undertaken an assessment of the walking and cycling provision and connectivity in paragraphs 36-43 of this statement of evidence and concluded that an extension of the future shared path along Weedons Ross Road between the northern and southern Kingsdowne Drive intersections is required to ensure that the site will be well-connected to support the uptake of walking and cycling modes. When coupled with the upgrade to the SH73 Weedons Ross Road intersection, this provides connectivity to the town centre, school and current bus stops to the north of SH73 as well as providing a direct connection to any future public transport opportunities along Weedons Ross Road.
57. I further consider there is nothing in the Plan Change precluding the provision of improved public transport services from directly serving Weedons Ross Road adjacent to the development.
58. Submission #6 identifies inconsistencies with the NPS – UD due to an increase in travel to Christchurch as a result of the Plan Change, with a subsequent increase in vehicle emissions, congestion and longer journey times. The submission seeks a funded and implemented public transport system to serve the site prior to any residential development. I defer to Ms White in respect of the interpretation of the NPS – UD but have provided some assessment in the following paragraphs of the travel demands arising from the Plan Change.

59. I acknowledge that based on the traffic distribution assessment in the ITA and my own assessment of Statistics New Zealand Journey to Work data from paragraph 29 and Table 1, West Melton residents are heavily reliant on Christchurch as the main centre for employment.
60. The 2018 census data included as Attachment A to my evidence shows that 75% of working residents leave West Melton for employment and 45% of students travel to schools and institutions outside of West Melton. This is lower than the figure of 90% of West Melton residents commuting to Christchurch, referred to in submission #6. I would expect the level of Plan Change traffic driving to Christchurch would be similar to my trip distribution assessment presented in Table 2, which is based on the 2018 census data trends. The assessment in the ITA and my own assessment of the trip distribution has assumed that the future trip patterns will be similar to current trip patterns, unless there were a substantial increase in employment, education facilities and commercial services in the town.
61. On this basis as more residential development such as that which would be enabled under PC67 occurs, I would expect an increase in travel demand between the Plan Change site and Christchurch due to the currently limited employment opportunities, schools, and retail and commercial offerings in West Melton. The increase in travel would result in a corresponding increase in vehicle-related emissions. However, the impact of this travel on the operation of the Christchurch City road network is likely to be widely dispersed and diluted as is demonstrated by the wide range of employment and education destinations in the Attachment A graphics.
62. I am not aware of any precedents for Christchurch City Council's request for an applicant to provide a funded and implemented public transport service prior to development of a site, but note that as the West Melton urban area develops it will be more attractive to provide improved public transport services due to the larger residential catchment.

Conclusions

63. I have reviewed the Integrated Transport Assessment and considered submissions on the Plan Change. I have concluded that:
- a. The future upgrade of the SH73 / Weedons Ross intersection and associated works, and imminent Weedons Ross Road widening will provide sufficient capacity on the local transport network to accommodate traffic associated with the Plan Change;
 - b. The Plan Change is not inconsistent with local and regional planning documents subject to maximising opportunities for walk and cycle connectivity to the town centre, school, the current public transport service and potential future public transport connections;
 - c. The Plan Change will result in an increase in travel to and a continued reliance on Christchurch as a major source of employment, education and other trip destinations, however the effects of this will be dispersed and diluted across the wider transport network.
 - d. Transport-related matters raised in submissions are addressed satisfactorily notwithstanding the above three points.

64. In conclusion, I support this plan change application from a transport perspective subject to the following matters being addressed within the scope of Plan Change 67:

- a. Application of the rule requiring the signalisation of SH73 / Weedons Ross intersection and associated works prior to the development of the Plan Change site.
- b. The provision of a shared path connecting the SH73 / Weedons Ross intersection to the northern intersection of Kingsdowne Drive, should this not be delivered as part of the Waka Kotahi intersection upgrade.
- c. The provision of a shared path along the east side of Weedons Ross Road including between the northern and southern Kingsdowne Drive intersections such that a continuous shared path is implemented along Weedons Ross Road between the site access and SH73 prior to development of the Plan Change site.

Dave Smith

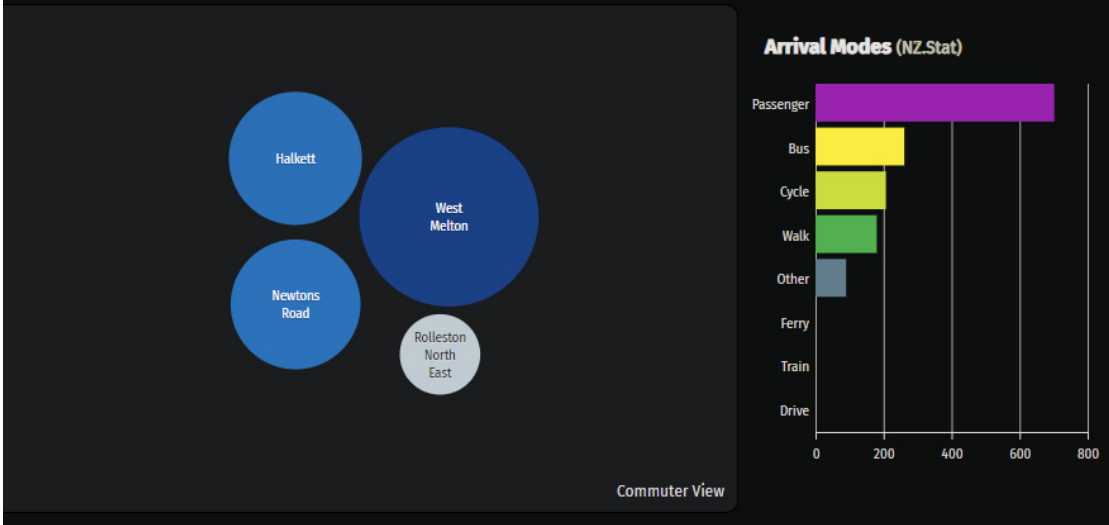
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ATTACHMENT A Waka Commuter Travel Data from 2018 Census

Journey to Education Data

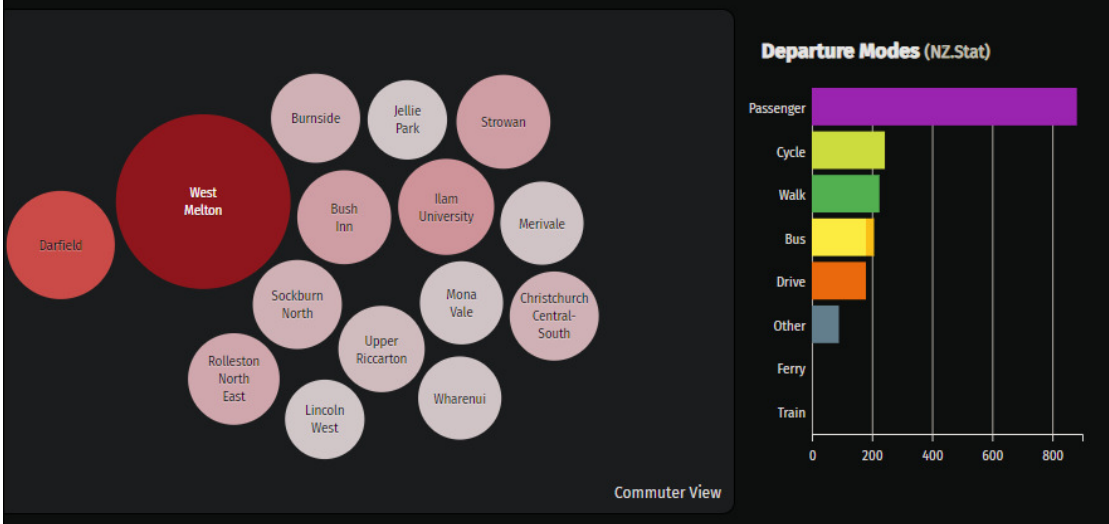
Arrivals

195 people travel to West Melton for school (42%), while **273 people (58%)** also live in West Melton. People arrive from **3 different areas**, the largest share being **Halkett (99 people—21% of arrivals)**. The most common way to arrive to for school is to be a **passenger in a car, truck, van, or company bus (48%)**.



Departures

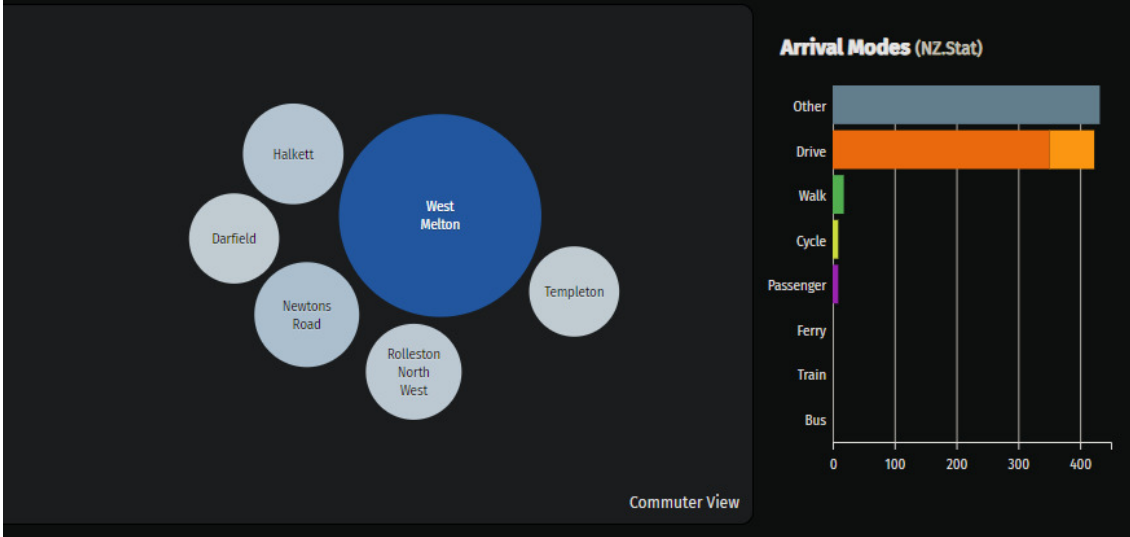
225 people (45%) leave West Melton to **14 different areas** for school. **Darfield, with 45 departures (9%)** is the top destination outside of West Melton. To depart to for school, people in West Melton most often are **passengers in a car, truck, van, or company bus (48%)**.



Journey to Work Data

Arrivals

48 people travel to West Melton for work (21%), while **177 people (79%)** also live in West Melton. People arrive from **5 different areas**, the largest share being **Newtons Road (15 people—7% of arrivals)**. The most common way to arrive to for work is to **work at home (48%)**.



Departures

543 people (75%) leave West Melton to **30 different areas** for work. **Christchurch Airport**, with **45 departures (6%)** is the top destination outside of West Melton. To depart to for work, people in West Melton most often **drive a private car, truck or van (64%)**.

