BEFORE THE SELWYN DISTRICT COUNCIL

UNDER	the Resource Management Act 1991
IN THE MATTER OF	Lodgement of Private Plan Change 69 with Selwyn District Council
BETWEEN	Rolleston Industrial Developments Limited
AND	Selwyn District Council

SUMMARY STATEMENT OF MATHEW (MAT) ROSS COLLINS ON BEHALF OF SELWYN DISTRICT COUNCIL

Transport

25 November 2021

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1 INTRODUCTION

1.1 My full name is Mathew (Mat) Ross Collins. I have been engaged by Selwyn District Council (Council) as its transport expert for PC69 since August 2021 and I prepared the Transportation Hearing Report, dated 27 October 2021, and attached to Council's s42a report. As that report did not set out my qualifications and experience, I have set these out below.

1.2 I hold a Bachelor of Engineering (Hons) from the University of Auckland and have a post-graduate certificate in transportation and land use planning from Simon Fraser University in Vancouver, Canada. I have been employed by Flow Transportation Specialists since February 2019, where I hold the position of Associate at Flow Canterbury.

1.3 I have over 6 years of experience as a transportation planner and engineer in public and private sector land development projects, which includes experience with strategic land use and transport planning, plan changes, Integrated Transport Assessments, development consenting, and notices of requirement.

1.4 My experience includes acting for Waka Kotahi NZ Transport Agency, Auckland Transport and Auckland Council, Kāinga Ora, Whangarei District Council, Kaipara District Council, and various private developers throughout New Zealand. This work has involved:

(a) Plan change applications including multiple Selwyn Private Plan Changes, Drury East, Drury West, Warkworth North, the Whangarei District Plan Changes for Urban and Services, Mangawhai Central, Avondale Jockey Club, and Pukekohe Raceway.

(b) Resource consent applications including large precincts: Drury South Industrial, Drury Residential, Redhills, Silverdale 3, Drury 1, Waiata Shores, and Crown Lynn Yards.

(c) Designation, Outline Plan of Works, and resource consent applications for major infrastructure including Healthy Waters St Marys Bay Stormwater Water Quality Programme, Watercare Huia Water Treatment Plant replacement, Watercare Huia 1. Watermain replacement, and several Ministry of Education Schools.

2 CODE OF CONDUCT

2.1 I have read and am familiar with the Environment Court's Code of Conduct for Expert Witnesses, contained in the Environment Court Practice Note 2014, and agree to comply with it. My qualifications as an expert are set out above.

2.2 Other than where I state that I am relying on the advice of another person, I confirm that the issues addressed in this summary statement are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

3 SUMMARY OF EVIDENCE

3.1 I have reviewed the following evidence from the applicant:

(a) Nick Fuller (Transport).

(b) Dave Smith (Traffic modelling)

(c) Jeremy Phillips (Planning).

3.2 Unless otherwise discussed below, I consider that matters identified in my Transportation Hearing Report have been resolved through applicant evidence and/or discussions had during the hearing.

3.3 In terms of matters that remain in contention

(a) **AM peak hour vehicle trip generation**. I consider that either

(i) Updated modelling should be provided for the AM peak, using a 0.82 veh/hr/dwelling trip rate; or

(ii) A dwelling cap should be placed on PPC69, based on PPC69 generating no more than 1,400 veh/hr (as assessed in Mr Fullers EIC). I calculate this cap to be around 1710 dwellings. In my view development within PPC69 could exceed this level, however it would need to be subject to an updated transportation assessment

(b) **Safety and efficiency effects for pedestrians and cyclists on Springs Road, Lincoln**. I consider that there will be safety and efficiency effects on pedestrians and cyclists on Springs Road, between PPC69 and Gerald Street. To mitigate these effects, PPC69 should provide safe pedestrian/cyclist crossing facilities on key desire lines along Springs Road, particularly near the University

(c) **Effects on Prebbleton arterials**. In summary

(i) Mr Fuller and I agree that there will be capacity issues for the Shands Road and Springs Road corridors through Prebbleton, should all current plan changes proceed

(ii) I consider that the effects of PPC69 on Shands Road/Springs Road are significant

(iii) I consider that it is more appropriate for Council to coordinate any upgrade of these corridors, as capacity issues are a result of multiple plan changes

(iv) However, I question whether Council can reasonably be expected to fund and deliver capacity upgrades

(v) Early delivery of the Moir Lane connection may help delay some effects on Shands Road/Springs Road, however without further assessment I am unable to comment on the degree to which this may act as a "pressure release" for the Prebbleton arterials, nor the effect on the Ellesmere Road/SH75 corridor

(d) **PPC69 northern intersection with Springs**. Mr Fuller and I agree that the form of the northern intersection of PPC69 with Springs Road, either as a roundabout or traffic signals, should be determined as part of future subdivision consent application in liaison with Council's Transportation Manager. I recommend that the ODP be amended to reflect this outcome

(e) **Transport links between PPC69 and surrounding urban areas**. I consider that, due to the existing urban form of adjacent land, PPC69 will have less than optimal connectivity to Lincoln for all transport users. In my view this will result in lower resilience, and lower active and public transport usage. While not a critical flaw in itself, this should be considered in conjunction with other concerns that I have highlighted. Should Council determine that the utility reserve can be used to form a road connection to Te Whāriki, I consider that PPC69 should be responsible for all costs associated with planning approvals and construction.

(f) **Timing and responsibility for infrastructure upgrades**. I am concerned that pressure may be put on Council to reprioritise the Springs Rd / Ellesmere Junction Rd / Gerald St traffic signals. I recommend that amendments be made to Table 1 of the ODP in terms of responsibility and timing of some projects.

3.4 In terms of the traffic effects of PPC69 on the Greater Christchurch transport network, as a plan change outside of the identified growth area, I recommend that this be considered in a planning context.

4 AM peak hour vehicle trip generation

4.1 In his summary statement, Mr Fuller discusses survey results from Millstream Drive where he concludes that 0.6 veh/hr/dwelling is an appropriate rate to use for PPC69 during the AM peak, and 0.82 veh/hr/dwelling is an appropriate rate to use for the PM peak. Mr Smith and Mr Fuller provide updated traffic modelling results in their summary statements, reflecting this revised trip rate.

4.2 I am satisfied with the modelling for the PM peak, as this uses a rate similar to my recommendation and demonstrates that the Lincoln transport network will operate acceptably.

4.3 However, I have the following concerns about the modelling for the AM peak:

(a) I consider that the survey does not provide robust evidence of what trip rates should be used for PPC69, due to

(i) Small survey size

(ii) Unknown effect of Covid19 Level 2 on current travel patterns

(iii) Likelihood that PPC69 will have a higher commuting profile (into and out of Lincoln) compared with existing residential areas, due to residential growth out stripping local employment growth.

(b) I consider that vehicle trip generation tends to be more concentrated in the AM peak, due to the overlap of commuting and school traffic, and that often these trips are chained (i.e. some parents/caregivers need to travel at a specific time to drop children at school prior to commuting to work)

(c) Modelling included in Mr Fuller's EIC indicates that some intersections are reaching capacity, based on a trip rate of 0.7 veh/hr/dwelling.

4.4 In my view, a trip rate between 0.85 veh/hr/dwelling (referenced in the RTA Guide to Traffic Generating Developments, a common reference cited for suburban land developments in New Zealand) and 0.9 veh/hr/dwelling (used by the Rolleston Plan Changes) is more appropriate.

4.5 I have discussed this directly with Mr Fuller during the hearing, and I have indicated that I would be comfortable with him adopting a 0.82 veh/hr/dwelling trip rate for the AM peak.

4.6 I consider that either

(a) Updated modelling should be provided for the AM peak, using a 0.82 veh/hr/dwelling trip rate; or

(b) A dwelling cap should be placed on PPC69, based on PPC69 generating no more than 1,400 veh/hr (as assessed in Mr Fullers EIC). I calculate this cap to be around 1710 dwellings. In my view development within PPC69 could exceed this level, however it would need to be subject to an updated transportation assessment.

5 Safety and efficiency effects for pedestrians and cyclists on Springs Road, Lincoln Street

5.1 The theoretical mid-block traffic capacity of roads is provided in Table 4.3 and Table 4.4 of the RTA Guide to Traffic Generation Developments. These tables are reproduced in Figure 1 below.

5.2 The RTA guide indicates that that Springs Road (south of Gerald Street) can be expected to have a one-way capacity of between 600 and 900 vehicles per hour. As reported in Section 5.4 of my Transport Hearing Report, the Lincoln Paramics model indicates that traffic flows on Springs Road (south of Gerald Street) are expected to be some 940 veh/hr in the northbound direction during the morning peak. This may exceed the capacity of this section of Springs Road.

5.3 Of key concern for me is that the high traffic flows will likely create efficiency and safety effects for pedestrians and cyclists, as the ability to cross Springs Road, particularly near the University, will be severely hampered.

5.4 In summary, I consider that there will be safety and efficiency effects on pedestrians and cyclists on Springs Road, between PPC69 and Gerald Street. To mitigate these effects, PPC69 should provide safe pedestrian/cyclist crossing facilities on key desire lines along Springs Road.

Figure 1: RTA mid-block capacity tables

Table 4.3
Typical mid-block capacities for urban roads with interrupted flow

Type of Road	One-Way Mid-block Lane Capacity (pcu/hr)	
Median or inner lane:	Divided Road	1,000
	Undivided Road	900
Outer or kerb lane:	With Adjacent Parking Lane	900
	Clearway Conditions	900
	Occasional Parked Cars	600
4 lane undivided:	Occasional Parked Cars	1,500
	Clearway Conditions	1,800
4 lane divided:	Clearway Conditions	1,900

Table 4.4
Urban road peak hour flows per direction

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

6 Effects on Prebbleton arterials

6.1 To gauge the potential traffic demands through Prebbleton by 2031/2033, I have interpolated outputs from the 2033 Rolleston Paramics model and the 2031 Lincoln Paramics model.

6.2 A summary of indicated traffic flows, and the proportional contribution from each source, is provided in Table 1. Importantly, this data does not include traffic from PPC68, PPC72 or PPC79 in Prebbleton.

6.3 Based on Figure 1 above, Shands Road has a capacity of around 1,400 veh/hr and the Prebbleton urban section of Springs Road has a capacity of around 600 to 900 vph. This results in a total north/south capacity through Prebbleton of around 2,000 to 2,300 veh/hr.

Table 1: Traffic demands through Prebbleton

Scenario	AM peak direction demand (veh/hr)	Proportion of total future demand
Future demand without any plan changes	2190	63%
Demand generated by Rolleston plan changes[1]	390	11%
Demand generated by PPC69[2]	800	25%
Total demand	**3460**	**100%**
Total current capacity	**2000 – 2300**	**150% - 173% over capacity**

6.4 Without any plan changes, future traffic demand is expected to be approximately equal to the available capacity (some 2190 veh/hr). However, if PPC69 traffic is added the demand is likely to exceed capacity by some 700 to 1000 veh/hr. This is further exacerbated when traffic from the Rolleston Plan Changes is added, resulting in capacity being exceeded by around 1100 to 1400 veh/hr, which represents a 50% - 73% demand beyond what is available.

6.5 Of note, PPC69 generates around 25% of the total demand on Shands Road and Spring Road through Prebbleton, and around 67% of the demand generated by the combination of Lincoln and Rolleston plan changes.

6.6 In paragraph 13 of his summary statement, Mr Fuller considers that capacity issues through Prebbleton are a matter that Council will need to address, irrespective of PPC69.

6.7 I agree with Mr Fuller that road controlling authorities are generally better placed to address cumulative growth effects on the transport network (such as the Shands Road / Springs Road corridor). However, I disagree with Mr Fuller that capacity improvements will be required for Prebbleton irrespective of PPC69.

6.8 As evidenced above, the corridors are anticipated to cater for future growth (potentially including a degree of additional demand from Rolleston Plan Changes). However, PPC69 has a significant effect on capacity exceedance.

[1] Traffic generated by Rolleston Plan changes entering/exiting the Rolleston Paramics model on Selwyn Road (eastern end)
[2] Taken as the sum of traffic generated by PPC69 entering/exiting the Lincoln Paramics model on Springs Road (360 v/hr), Shands Road (230 v/hr), and Birches Road (210 veh/hr)

6.9 As PPC69 is outside of the future development area identified in the Canterbury RPS, I question whether Council can reasonably be expected to increase expenditure or reallocate committed funding in order to address unanticipated traffic growth through Prebbleton.

6.10 In paragraph 14 of his evidence, Mr Fuller notes the availability of Ellesmere Road and SH75 as an alternative route between Lincoln and Christchurch. I agree that this can serve as an alternative route into Christchurch, and I consider that early delivery of the connection to Moir Lane may delay the effect of PPC69 on Shands Road/Springs Road. However, without further assessment I am unable to comment the degree to which this may act as a "pressure release" for the Prebbleton arterials, nor the effect on the Ellesmere Road/SH75 corridor.

6.11 In summary

(a) Mr Fuller and I agree that there will be capacity issues for the Shands Road and Springs Road corridors through Prebbleton, should all current plan changes proceed

(b) I consider that the effects of PPC69 on Shands Road/Springs Road are significant

(c) I consider that it is more appropriate for Council to coordinate any upgrade of these corridors, as capacity issues are a result of multiple plan changes

(d) However, I question whether Council can reasonably be expected to fund and deliver capacity upgrades

(e) Early delivery of the Moir Lane connection may help delay some effects on Shands Road/Springs Road, however without further assessment I am unable to comment on the degree to which this may act as a "pressure release" for the Prebbleton arterials, nor the effect on the Ellesmere Road/SH75 corridor.

7 PPC69 northern intersection with Springs Road

7.1 Mr Fuller, Mr Smith and I have expressed differing opinions on the form of the northern intersection with Springs Road, either as a signalised intersection or as a roundabout.

7.2 Based on paragraph 18 of Mr Fuller's summary statement, I consider that this matter has been resolved, subject to the ODP identifying that the form of the northern intersection (either as signalised intersection or a roundabout) should be confirmed

as part of future subdivision consent application in liaison with Council's Transportation Manager.

8 Transport links between PPC69 and surrounding urban areas

8.1 In my hearing report I expressed the opinion that PPC69 will have poor connectivity to adjoining urban areas, and lower active and public transport usage.

8.2 I have summarised the transport links to adjoining areas, identified in the ODP and in Figure 2 below, and have provided comments on each

(a) A green link connection to Verdeco Park. I support this connection, however I am unsure whether the local purpose reserve in Verdeco Park (Lot 406 of Subdivision RC185367) includes walking and cycling facilities as far as the boundary with PPC69

(b) A future proofed roading connection to the Business 2B zone of Verdeco Park. I support this connection and consider that it is likely to be formed when the Business 2B zone is developed

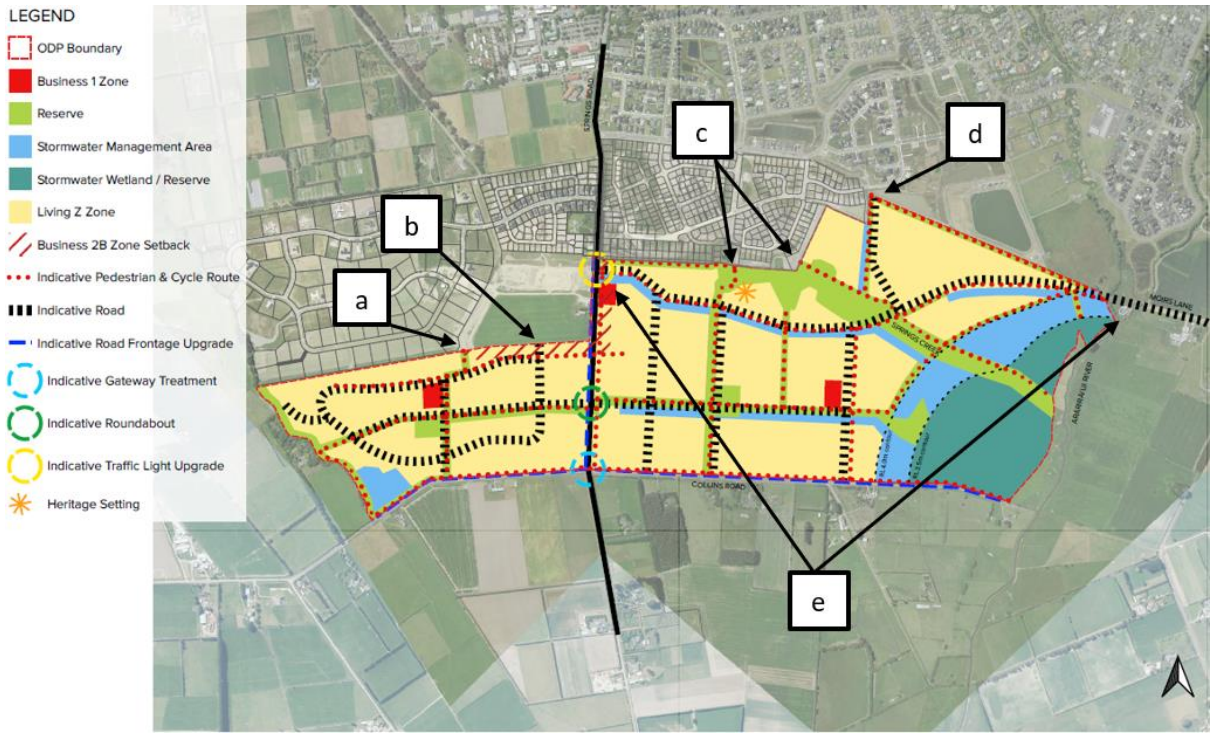
(c) A pedestrian cycle connection to Te Whāriki via Springs Creek. I support this connection however I am unsure whether the local purpose reserves in Te Whāriki (Lot 414 and 415 of Subdivision RC205181) include walking and cycling facilities as far as the boundary with PPC69

(d) A potential road connection to Te Whāriki, however this would rely on using a utility reserve vested in Council to form the connection

(e) Springs Road and Moirs Lane connections. Key roading connections to the existing/future Lincoln urban area.

8.3 This results in two certain road connections, one possible road connection, and 3 pedestrian/cycling connections along the interface of PPC69 with the existing and future Lincoln urban area. This interface is approximately 3.5km long (from the eastern to western extent of PPC69, following the plan change boundary). I consider this presents a low level of connectivity for all transport users, and I note that this is consistent with the view of Mr Nicholson.

Figure 2: Connections to adjacent urban areas



8.4 In response to Mr Phillips' understanding that my assessment is concerned with the connectivity of vehicles (paragraph 69 of Mr Phillips' EIC), I confirm that my opinion on this matter is based on all users of the transport system, not just drivers of private vehicles.

8.5 Limited connectivity / larger block sizes negatively affect

(a) The resilience of the transport network, making it prone to disruption from congestion, breakdowns, and road works, and placing higher travel demand on fewer transport corridors

(b) The walkability of the network, as it results in longer walking distances,

(c) The effectiveness of running public transport services, due to fewer service routing options and reduced stop catchments.

8.6 Should Council determine that the utility reserve can be used to form a road connection to Te Whāriki, I consider that PPC69 should be responsible for all costs associated with planning approvals and construction.

8.7 In summary I consider that, due to the existing urban form of adjacent land, PPC69 will have less than optimal connectivity to Lincoln for all transport users. In my view this will result in lower resilience, and lower active and public transport usage. While

not a critical flaw in itself, this should be considered in conjunction with other concerns that I have highlighted. Should Council determine that the utility reserve can be used to form a road connection to Te Whāriki, I consider that PPC69 should be responsible for all costs associated with planning approvals and construction.

9 Timing and responsibility for infrastructure upgrades

9.1 I support the inclusion of "Table 1: Required road network upgrades" per the 24/11/2021 0900hrs version of the ODP.

9.2 However, I am concerned about the timing of the Springs Rd / Ellesmere Junction Rd / Gerald St traffic signals. Table 1 requires that these will be in place before any development within PPC69, but these works are programmed by Council for 2033/34. Should PPC69 be approved, the rezoned land would not be able to be developed for over 10 years, or otherwise place pressure on Council to reprioritise funding in the Long Term Plan to respond to PPC69.

9.3 I recommend the following amendments to Table 1 of the ODP

(a) Ellesmere Road seal widening south of Edward Street. I consider that this should be identified as Developer funded rather than Private developer agreement. In my opinion Council has no obligation to undertake these works or act as "banker" to ensure other landowners contribute relative to any benefit they may gain from the upgrade

(b) The timing of the following upgrades should be revised so "upon formation of a connection to Moirs Lane", to avoid a situation where the Moirs Lane connection is made prior to 1586 dwellings and these upgrades are not delivered in a timely fashion

(i) Ellesmere Road seal widening south of Edward Street

(ii) Ellesmere Road widening (north of Edward Street)

(iii) Ellesmere Road / Edward Street / Lincoln Tai Tapu Road intersection.

Mat Collins
25 October 2021