Before the Selwyn District Council

under: the Resource Management Act 1991

in the matter of: Proposed Private Plan Change 69 to the Operative District Plan: Lincoln South

and: **Rolleston Industrial Developments Limited**
Applicant

Summary of Evidence of David Smith (Traffic Modelling)

Dated: 22 November 2021

Reference: JM Appleyard (jo.appleyard@chapmantripp.com)
LMN Forrester (lucy.forrester@chapmantripp.com)

chapmantripp.com
T +64 3 353 4130
F +64 3 365 4587

PO Box 2510
Christchurch 8140
New Zealand

Auckland
Wellington
Christchurch

chapman tripp

SUMMARY OF EVIDENCE OF DAVID SMITH

INTRODUCTION

1 My name is David Smith and I am the Technical Director of Transportation Planning at Abley. I have 21 years' experience in transportation modelling, planning and engineering and have managed and led numerous projects related to transportation planning, transportation research and Resource Management Act (RMA) related matters for public and private sector clients.

2 I have undertaken modelling of PC69 traffic using the Lincoln Paramics microsimulation model. The model was developed in 2014 for Council under my direction by the Abley team and has subsequently been used to support transportation planning across the township.

3 My evidence in chief (EIC) responds to **Mr Collins'** review of the modelling presented in his Transport Hearing Report, and on this basis I have revisited several assumptions and updated the modelling accordingly for **Mr Fuller's** consideration. This update addressed concerns regarding the specification of journey time paths, modelling pedestrian crossing phases, inclusion of a roundabout on the southern PC69 access to Springs Road and removal of connections to adjacent residential areas.

4 Whilst I have left the interpretation of the modelling to **Mr Fuller**, I consider that this updated modelling addresses the technical concerns raised by Mr Collins. I am of the view that the modelling has been undertaken in line with best practice and appropriately demonstrates the effects of the Plan Change on the Lincoln transport network.

5 Subsequent to preparing my EIC, Mr Fuller has asked me to undertake a modelling sensitivity test. The test explores the impact of changing the PC69 trip rates per household using rates based on surveys collected in November 2021 in Lincoln. The trip rates were 0.6 trips per household in the morning peak hour (8-9am) and 0.82 trips per household in the evening peak hour (5-6pm) which are lower and higher respectively than the 0.7 trips per household assumed in the prior assessment.

6 Mr Collins also raised a concern regarding traffic using Farm Road (which is a pedestrian and cycle only access) to access the University on Springs Road. I address this matter in paragraph 14 of my EIC whereby this was effectively a proxy for the main Springs Road car park access located 110m to the south. I have taken the opportunity to refine the modelling of this vehicle access as part of the sensitivity test requested by Mr Fuller. By refining the locations of the accesses, I have confirmed that there is sufficient queuing

room in the flush median to accommodate University traffic with the addition of traffic generated by the Plan Change on Springs Road.

7 A summary of morning peak and evening peak total traffic volumes, delays and level of service at key intersections is appended to this summary statement as Table 1 and Table 2 respectively. For ease of reference the locations of each intersection are also mapped in Figure 1. The modelling does not assume a central link is available through the adjacent residential area to the north of PC69.

8 The appendix to my EIC included a table of morning peak intersection performance outputs (labelled table 4.3) which included some transcription errors. The underlying modelling and corresponding detailed intersection results were correct, however several results in the table have now been corrected. The replacement table 4.3 is appended to this summary statement as Table 3. In my view, the corrected reporting does not have any material effect on the Plan Change.

9 I am happy to answer any questions concerning my evidence.

Dated: 22 November 2021

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Dave Smith

APPENDIX – UPDATED MODELLING OUTPUTS

Table 1 Morning Peak (8-9am) Sensitivity Test Modelling Results

Intersection	EIC Modelling with PC69			Sens. Test with PC69		
	Vol	Delay	LOS	Vol	Delay	LOS
A. Springs / Gerald / Ellesmere Jct Signals	2301	39	D	2211	34	C
B. Gerald / James / Edward Signals	1575	14	B	1536	13	B
C. Weedons / Ellesmere Jct RAB	1145	7	A	1132	7	A
D. Springs Rd Uni Entrance (Car Park) North Priority	1455	33	D	1387	13	B
E. Springs Rd Uni Entrance (Engineering Dr) South Priority	1341	48		1307	16	C
F. Springs / Anaru Priority	1305	3	A	1231	2	A
G. Springs / Southfield Priority	1303	26	D	1225	25	C
H. Springs / Verdeco Priority	1257	24	C	1174	20	C
I. Springs / ODP Access North Signals	1217	19	B	1102	17	B
J. Springs / ODP Access South RAB	316	2	A	297	3	A
K. Springs / Collins Priority	142	3	A	137	3	A

Table 2 Evening Peak (5-6pm) Sensitivity Test Modelling Results

Intersection	EIC Modelling with PC69			Sens. Test with PC69		
	Vol	Delay	LOS	Vol	Delay	LOS
A. Springs / Gerald / Ellesmere Jct Signals	1924	36	D	1957	36	D
B. Gerald / James / Edward Signals	1546	12	B	1558	13	B
C. Weedons / Ellesmere Jct RAB	916	4	A	944	5	A
D. Springs Rd Uni Entrance (Car Park) North Priority	1224	21	C	1196	10	A
E. Springs Rd Uni Entrance (Engineering Dr) South Priority	1100	9	A	1151	9	A
F. Springs / Anaru Priority	917	2	A	1002	2	A
G. Springs / Southfield Priority	1006	8	A	1092	9	A
H. Springs / Verdeco Priority	998	8	A	1085	9	A
I. Springs / ODP Access North Signals	1285	16	B	1393	17	B
J. Springs / ODP Access South RAB	328	3	A	369	3	A
K. Springs / Collins Priority	194	2	A	195	4	A

Figure 1 Location of Key Intersections

Table 3 Corrected Table 4.3 from Appendix to EIC - Intersection Performance at Key Intersections in the Morning Peak (08:00-09:00)

Intersection	No Development			With Development			With Development and Central Link		
	Vol	Delay	LOS	Vol	Delay	LOS	Vol	Delay	LOS
Springs / Gerald / Ellesmere Jct Signals	1617	19	B	2320	40	D	2301	39	D
Gerald / James / Edward Signals	1275	12	B	1538	13	B	1575	14	B
Weedons / Ellesmere Jct RAB	957	5	A	1129	6	A	1145	7	A
Springs / Anaru Priority	474	2	A	1370	3	A	1305	3	A
Springs / Southfield Priority	496	5	A	1408	27	D	1303	26	D
Springs / Verdeco Priority	421	4	A	1387	36	E	1257	24	C
Springs / ODP N Access Signals	255	1	A	1400	20	C	1217	19	B
Springs / ODP S Access RAB	140	2	A	345	3	A	316	2	A
Springs / Collins Priority	140	3	A	133	3	A	142	3	A

Changes results are highlighted in the above table