Before the Selwyn District Council

under: the Resource Management Act 1991

in the matter of: Proposed Private Plan Changes 81 and 82 to the Operative District Plan: Dunns Crossing Road, Rolleston

and: **Rolleston Industrial Developments Limited** and **Brookside Road Residential Limited**
Applicant

Summary of Evidence of Chris Blackmore (Traffic modelling)

Dated: 12 September 2022

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SUMMARY OF EVIDENCE OF CHRIS BLACKMORE

1 My full name is Christopher John Blackmore. I hold the position of Senior Transportation Planner at Abley.

2 I have undertaken modelling of the future transport environment using the Rolleston Paramics microsimulation model. The model was updated in 2019 for Council by myself and the Abley team and has subsequently been used to support transportation planning across the township.

3 Following **Mr Collins'** review of the modelling presented in his Transport Hearing Report, I have revisited several assumptions and updated the modelling accordingly for Mr Fuller's consideration.

4 As noted by **Mr Fuller**, the amount of activity in the model is in excess of the Waka Kotahi Rolleston NZUP 2038 project model. The plan change model represents a full development scenario and includes all currently zoned residential, commercial, and industrial land, as well as development of the private plan changes lodged and assessed at this time.

5 As such the 2033 future year is a nominal year which corresponds to the full development of all of the Plan Changes that have been lodged and assessed, and based on Statistics New Zealand growth forecasts is realistically a high growth 35 year forecast model.

6 Updated modelling results demonstrate that in the morning peak hour the State Highway 1/ Dunns Crossing Road/ Walkers Road roundabout operates acceptably at LOS D for the intersection overall. The southern Dunns Crossing approach operates at LOS F, indicating that approach is near to, or in excess of, capacity. The 94 seconds of total delay on the Dunns Crossing approach accounts for all delay on the approach experienced by average vehicle including stop-line delay, any delay experienced traversing the roundabout, and reduction in free-flow speed travelling north from Burnham School Road.

7 **Mr Fuller** has also asked me to undertake a modelling sensitivity test to explore the impact of altering the infrastructure constructed at the State Highway 1/ Rolleston Drive South intersection as part of the Waka Kotahi State Highway 1 Rolleston Transport Improvements programme, from the proposed left-in left-out configuration to an appropriately sized roundabout.

8 It is my view that overall, the operation of the State Highway 1 connections to Rolleston operate much more efficiently with the inclusion of the State Highway 1/ Rolleston Drive South roundabout.

9 A second test was also requested by **Mr Fuller** comprising of converting the State Highway 1/ Dunns Crossing Road/ Walkers Road roundabout to an appropriately sized traffic-signal controlled crossroads, while maintaining the State Highway 1/ Rolleston Drive South intersection as a left-in left-out only, priority controlled intersection.

10 My modelling of this intersection configuration demonstrates a significant increase in capacity at the State Highway 1/ Dunns Crossing Road/ Walkers Road intersection, compared to the currently proposed roundabout configuration. Vehicle delay on the Dunns Crossing Road southern approach reduces in peak hour from 97s to 48s, while intersection delay remains similar overall.

11 In my opinion the intersection layout demonstrates sufficient reserve capacity to be operated in a way which maintains low delays along the State Highway while providing a higher level of flexibility than a roundabout configuration.

12 I consider that the modelling has been undertaken in line with best practice and appropriately demonstrates the cumulative effects of the Plan Changes on the Rolleston transport network.

Dated: 12 September 2022

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Christopher Blackmore