Before the Commissioner appointed by the Selwyn District Council

Under	the Resource Management Act 1991
In the matter of	Resource consent application for Foodstuffs (South Island) Properties Limited to establish and operate a PAK'nSAVE supermarket and associated access, loading, car parking, signage, earthworks and landscaping at 157 Levi Road, Rolleston (RC216016)

Summary Statement and Supplementary Statement of Evidence of David John Robert Smith

1 August 2022

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1 My name is David John Robert Smith.

2 I prepared a statement of evidence dated 18 July 2022 in relation to transportation matters. My qualifications and experience are set out in that statement of evidence.

3 I repeat the confirmation given in that statement that I have read and agree to comply with the Code of Conduct for Expert Witnesses in the Environment Court.

4 My role in relation to the Application is has been to provide advice in relation to traffic and transport. I drafted the Integrated Transportation Assessment report to the Assessment of Environment Effects (AEE) accompanying the Application, which appears at Appendix E of the AEE, and responded to RFIs issued by Selwyn District Council.

5 I have also been involved in expert witness caucusing with Mr Carr and am a signatory to a transportation Joint Witness Statement dated 1 August 2022. Discussions with Mr Carr has resulted in additional survey and modelling work. This Supplementary Evidence is also addressed in this statement.

Summary of evidence

6 I have assessed the Foodstuffs' Application to establish, operate and maintain a supermarket and associated click and collect facility, car parking, access, signage and landscaping at 157 Levi Road in Rolleston, Canterbury. I consider that with the Site located on the corner of Levi Road and Lincoln Rolleston Road, the Site presents an optimal location for vehicles travelling between Rolleston and Christchurch (on Levi Road) and between Rolleston and Prebbleton / Lincoln (on Lincoln Rolleston Road) to drop in on their way past the Site.

7 The evidence of Mr Colegrave is that the supermarket in Rolleston will reduce the current and future reliance on trips to Christchurch for supermarket shopping. I consider that this reduction on reliance will also reduce traffic volumes between Rolleston and Christchurch, and consequent vehicle-related emissions.

8 I have identified the key transport related features of the Application including:

(a) the inclusion of 513 car parks designed for efficient two-way vehicle movement throughout the Site;

(b) 24 cycle parks including secure staff parking to encourage uptake of cycling to access the supermarket;

(c) there are five accesses provided onto Levi Road and Lincoln Rolleston Road to efficiently distribute traffic across the local network;

(d) pedestrian connections through the Site to provide safe movement and support uptake for active modes;

(e) the installation of a shared path and a footpath along the site frontages on Levi Road and Lincoln Rolleston Road (respectively) are included within the application and integrate well with the external pedestrian and cycle networks;

(f) the Levi Road frontage upgrade includes road widening and the provision of a flush median lane on Levi Road which will improve vehicle access to and from Beaumont Drive and properties along Levi Road compared to the current situation;

(g) there is access to public transport 200 metres from the Site and based on my experience I consider there will likely be improved public transport connectivity delivered in the future, evident within the Christchurch Public Transport Futures Combined Business Case[1].

(h) separate delivery vehicle routes have been provided through the Site supported by wayfinding signage and I have assessed this to minimise conflicts with supermarket customers.

9 I have conducted an assessment of the transportation effects of the Application, including transportation modelling using the Rolleston Traffic Model. The assessment has several conservative assumptions and I conclude that the local network and accesses all operate well during the evening peak hour which is the period with highest network demands and levels of activity at the supermarket. I highlight that the Levi Road / Lowes Road / Masefield Drive / Lincoln Rolleston Road intersection in its current form operates well out to 2024 and is programmed to be signalised by SDC around 2025/26. I return to this matter in paragraphs 17-31 of this summary statement.

10 Within the modelling assessment I have considered the cumulative effect of supermarket traffic with potential urban development promoted by current Private Plan Changes, so it provides a robust assessment of the long-term performance of the network and demonstrates that the network will operate safely and efficiently. I have concluded that this assessment is conservative in that the model anticipated growth which may occur over a 30-year period out to 2048 is based on Statistics New Zealand high growth projections.

11 I have assessed the relevant transport-related rules within the operative Selwyn District Plan (**SDP**) and identified six non-compliances. Mr Carr identified a further two non-compliances relating to the site accesses and rules specific to the residential zone. I have provided an assessment for the applicable rules and consider them acceptable in the context of the Application, the receiving transport

[1] https://api.ecan.govt.nz/TrimPublicAPI/documents/download/4106274

environment, the modelling assessment undertaken and other design and mitigation measures associated with the Application.

12 I have read the Section 42A report and transport report of Mr Carr on behalf of SDC. Mr Carr has requested further information to be provided to fully assess the transportation effects of the supermarket. I have provided additional assessment including:

(a) demonstrating how the transport effects of the adjacent Plan Change 71 (**PC71**) have been included in the assessment;

(b) revisiting the transportation modelling assessment to address traffic diverting through residential streets;

(c) addressing my indicative sketch of a signalised layout of Levi Road / Lincoln-Rolleston intersection to demonstrate that no third-party land is required;

(d) recommending a suite of additional transportation conditions which Mr Allan has included in Appendix 2 of his evidence: proposed conditions of consent;

(e) confirming Foodstuffs' approach towards providing public access to its land for shared path users; and

(f) reinforcing the importance of retaining Access C onto Levi Road.

Joint Witness Statement

13 I am a signatory to the JWS dated 1 August 2022. There are several matters I wish to address in relation to the JWS as follows.

Additional Traffic Information

14 The caucusing was structured around confirming that the additional traffic-related information sought by Mr Carr in his report were satisfactorily addressed. As noted in paragraphs 30-50 of the JWS Mr Carr and I have agreed that this is the case.

Conditions of Consent

15 Mr Carr and I have discussed and worked together on preparing an updated set of conditions of consent which I have recommended to Mr Allan be included within the Application. I consider that these address matters of detail sought by Mr Carr in his report appended to the Section 42A report and demonstrate that there are suitable controls on activity within the site and monitoring conditions in place to address any unexpected traffic-related safety concerns should they occur at some stage in the future.

Levi Road Traffic

16 During caucusing Mr Carr and I discussed concerns raised by submitters regarding traffic volumes and associated congestions along Levi Road. We agreed there is a lack of clarity as to the current (2022) performance of the Levi Road / Lincoln-Rolleston Road / Lowes Road / Masefield Drive roundabout (the roundabout), and I therefore undertook traffic surveys and modelling to explore this matter. The additional surveying and modelling work undertaken is captured in paragraphs 12-25 of the JWS. For completeness I provide an overview of the surveying and modelling work in the following paragraphs.

17 I carried out a traffic survey on Monday 25th July 2022 between 5pm and 6pm at the roundabout capturing intersection turning movement volumes on all roundabout approaches as well as vehicle queues on the Levi Road approach. As weather conditions were adverse with steady rain throughout much of the hour, I instructed my colleague Mr Dixon to undertake a second survey capturing traffic volumes and queue length on the Levi Road approach to the roundabout on Thursday 28th July 2022 between 4:30pm and 6pm.

18 I have shared all survey results with Mr Carr and our agreed observations from the surveys are recorded in paragraph 15(a-e) of the JWS. Most significantly, I consider it is evident based on the surveys and observations undertaken along Levi Road that there is extensive queuing occurring on the Levi Road approach to the roundabout for a 10-12 minute period around 5:20-5:30 on each day as well as several short periods of queuing at other times in the evening peak hour.

19 To further understand the traffic performance of the Levi Road approach to the roundabout, I have extracted travel time data along Levi Road from Tomtom analytics to calculate average delays to vehicles on the Levi Road approach. The analysis extracted travel times for westbound Levi Road traffic between Strauss Drive (810m to the east of the roundabout) and Mary Brittan Road approx. 250m to the west of the roundabout), by hour-of-the-day averaged across all weekdays (that is with Saturday and Sunday data removed) in May 2022. I selected this month as there were no public or school holidays in the month and all of New Zealand was operating at Orange traffic light setting under the COVID-19 Protection Framework[2]. The approximate 1.26km distance along the corridor as shown below in my view captures the full length over which delays on the Levi Road approach to the roundabout occur.

[2] https://covid19.govt.nz/traffic-lights/history-of-the-covid-19-protection-framework-traffic-lights/

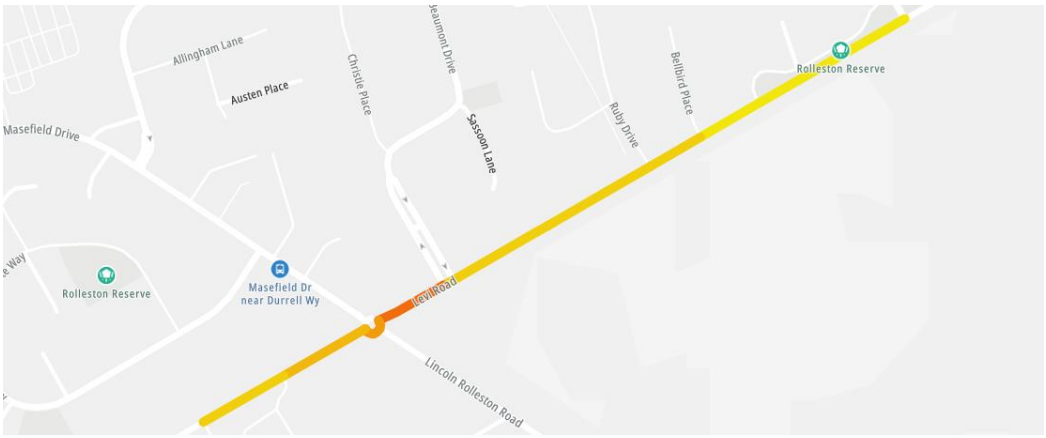

Figure One Extent of Tomtom travel time data analysis

20 The Tomtom data demonstrated that in the weekday evening peak hour of 5-6pm, average travel times on the Levi Road approach the roundabout were 21-23 seconds. This is consistent with the 2024 evening peak modelling presented in Table 7.3 of the ITA which recorded 23 second delays. This demonstrates that the current observed 2022 delays have now reached the previous 2024 modelled delays, reflecting the significant recent growth in traffic in Rolleston.

21 I prepared a model of the roundabout using Sidra Intersection software based on traffic volumes captured on the Monday survey and calibrated the model to reflect the queues observed on Levi Road on the Monday survey and the May 2022 average delays extracted from Tomtom data.

22 I have run the calibrated evening peak Sidra model for the following scenarios and have included the modelling results in the following table (which is consistent with that presented in Table One of the traffic JWS).

(a) Scenario 1: 2022 (calibrated model);

(b) Scenario 2: 2022 + ambient traffic growth to the threshold at which the Levi Road approach reaches its theoretical capacity; and

(c) Scenario 3: 2022 + supermarket traffic.

Table One Levi Road approach – current layout results

Scenario	Average delay (sec)	Volume / Capacity ratio	Ave queue length in m (and # cars)	95 %ile queue length in m (and # cars)
1: 2022	21.9	0.879	50m (7)	124m (18)
2: 2022+9%	54.1	0.998	107m (15)	267m (38)
3: 2022+PNS	74.3	1.019	110m (16)	273m (39)

23 As recorded in the JWS, Mr Carr and I agreed that the Levi Road approach to the roundabout will reach capacity in the next 2-3 years and if the supermarket opened prior to Council's planned upgrade to signals delays and queuing is likely to worsen.

24 Given there is some uncertainty as to the timing of Council's upgrade as well as some uncertainty as to the supermarket opening date, Mr Carr and I agreed that there is merit in incorporating an interim upgrade to the Levi Road approach. This would involve constructing a left turn auxiliary lane from Levi Road into Lincoln-Rolleston Road prepared by my colleagues under my direction.

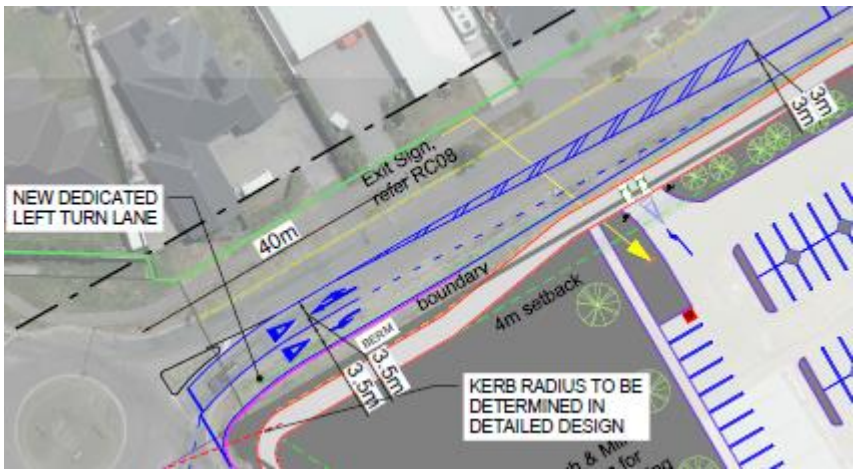

Figure Two Indicative interim upgrade to roundabout

25 In my view this interim upgrade is a feasible, viable improvement which can be accommodated within the road reserve and Foodstuffs' land and could be undertaken as part of the frontage upgrade if the signals were not operational or imminent at the time the supermarket opens.

26 I have modelled this interim upgrade to understand the likely impact on queue lengths and delays. The modelled scenarios are as follows:

(a) Scenario 4: 2022 with left turn lane + 9% growth (scenario 2 + upgrade);

(b) Scenario 5: 2022 with left turn lane + ambient traffic growth to the threshold at which the Levi Road approach reaches its theoretical capacity;

(c) Scenario 6: 2022 with left turn lane + 9% growth + supermarket traffic.

Table Two Levi Road approach – interim upgrade layout results

Scenario	Average delay (sec)	Volume / Capacity ratio	Ave queue length in m (and # cars)	95 %ile queue length in m (and # cars)
4: 2022+9%	12.6	0.735	26m (4)	65m (9)
5: 2022+28%	47.4	1.000	100m (14)	248m (35)
6: 2022+9%+PNS	32.5	0.915	54m (8)	135m (19)

27 As recorded in the JWS, Mr Carr and I agreed that the upgrade results in a significant decrease in queues and delays, and the upgrade accommodates a further 4-5 years of background traffic volumes.

28 The most helpful comparison in my view is to compare Scenarios 2 and 6. Scenario 2 is a 2024/25 baseline (that is with no supermarket traffic) demonstrating the current roundabout will have 54 second delays and up to 267m queues. If we add the supermarket traffic to the roundabout (that is assuming it is not upgraded by Council prior) and include the interim upgrade, there is a substantial improvement in performance with:

(a) average delay on Levi Road reduces from 54 seconds to 32 seconds;

(b) average queue lengths reduces by 53 metres; and

(c) maximum queue lengths reduce by 132 metres.

29 I have recommended that a condition of consent be added to include this interim upgrade as part of the application should Council;s full upgrade to the roundabout be delayed. This in my view benefits local residents on Levi Road and Beaumont Drive, other road users on Levi Road and supermarket traffic.

30 I would also like to highlight paragraph 29 from the JWS where Mr Carr and I agreed that ideally Council's signalisation of the roundabout and the frontage upgrades be undertaken at the same time. I consider that planning these together would reduce disruption, traffic management requirements and associated costs to all parties.

31 There remains one point of disagreement relating to the formation of Access C as recorded in JWS paragraph 51. Whilst I remain of the view that this access can be designed and managed safely, helpfully Mr Carr and I have agreed to a satisfactory monitoring condition to address any potential adverse effects should the access be formed and any such adverse effects arise.

Conclusion

32 I conclude that the proposed supermarket development integrates well with the transportation networks and future growth of Rolleston township. The design of the supermarket and transport conditions that I have recommended deliver positive benefits to all road users, and my view is that the application can be fully supported on transportation grounds.

David John Robert Smith

Dated this 1st day of August 2022