Te Kaunihera-ā-Rohe o Ngāmotu
New Plymouth District Council

Manor Property Limited

S.42A Report

APPENDIX 5

Transportation Technical Memo

New Plymouth District Council
Civic Centre
Liardet St
New Plymouth

AMTANZ Ltd
580 Wortley Rd
RD 9
Inglewood 4389
Ph: 0274884121

23rd April 2023

Attention: Todd Whitaker

Re: RESOURCE CONSENT APPLICATION SUB19/47312 and LUC19/47535 Traffic Matters

Dear Todd,

AMTANZ Ltd has been engaged by New Plymouth District Council to provide some commentary on the above resource consent applications in light of issues raised by submitters due to my knowledge of the area and recent developments. This includes a report prepared in 2018 to help inform the development of the Oropuriri Structure Plan on transportation issues.

Qualifications and Experience

1. I hold a bachelor of engineering degree in civil engineering.
2. I have been a civil engineer for 34 years. My experience includes 8 years in the United Kingdom working for both a consultancy and a Local Authority before moving to New Plymouth in 1996, to join Beca Ltd. I spent 21 years with Beca as a technical director leading many roading projects including the Bell Block bypass, Mt Messenger Route Investigations as well providing traffic engineering advice to both New Plymouth District Council and developers.
3. In 2017 I left Beca and established my own company AMTANZ Ltd to provide traffic and civil engineering services to a wide range of clients including NZTA, iwi, local authorities and developers. Projects have included the assessment of indicative roads for New Plymouths' Proposed District Plan, Traffic Impact Assessments of subdivisions and developments on Oropuriri Rd, Tukapa St in New Plymouth, Parklands Ave. in Bell Block, Baily St in Waitara to name but a few.
4. This short statement covers an overview of the network and potential impacts of any increase in traffic from the proposal.

The proposal

5. The proposed subdivision access is located to the south and east of the existing industrial area and Egmont Rd. Whilst the traffic heading to and from New Plymouth will predominantly choose to utilise Katere Rd and its intersection, vehicles heading to Bell Block and points further north and east will likely utilise the Egmont Rd intersection with State highway 3 or be faced with a route via Henwood Rd which is some 5.5km longer. My understanding is that the likely levels of traffic generation from the proposal have not yet been established.

Review of local roads

6. The Egmont Rd Structure Plan in the Operative District Plan (ODP) requires any development on Oropuriri Rd to undertake a traffic impact assessment once the traffic volumes have reached

1,750 vehicles/day. This volume has been exceeded for 12 months or more and subsequently AMTANZ Ltd undertook a traffic impact assessment for a development on Oropuriri Rd. The assessment involved peak hour turning counts from 7:00 am to 9:00 am, a SIDRA analysis of the Devon Rd (SH3) Egmont Rd Intersection and the Hurlstone Dr / Egmont Rd / Oropuriri Rd intersection and a review of crash record for the surrounding road network.

7. The SIDRA analysis indicates in the morning peak hours the right turn movement out of Egmont Rd onto State highway 3 (SH3) was at a level of service (LoS) F, the right turn movement into Egmont Rd from SH3 was at LoS E with the left turn movements operating at LoS A.
8. Modelling of the Hurlstone Dr/ Egmont Rd/ Oropuriri Rd intersection indicated the right turn out of Oropuriri Dr and the crossing movements between Hurlstone Dr and Oropuriri Rd are all at a LoS C, the right turn out of Hurlstone Dr is a LoS B and all other movements are at LoS A.

Crash History

9. An inspection of the national crash database for the past 5 years indicates a high level of crashes occurring on the State highway and the local road network, of particular concern here is the performance of Egmont Rd/ SH3 intersection as shown in the following image:

Figure 1 - Crash Record

10. The crashes are directly related to the congestion at the intersection as the intersection has excellent visibility, de-acceleration and acceleration lanes. The issue being as the delays at the intersection get longer driver impatience leads to them choosing smaller gaps in the approach traffic streams in which to make their manoeuvres. Consequently mistakes are made, leading to crashes occurring. As the biggest delays are to the right turning movements, the most likely crash types are going involve crossing manoeuvres i.e “T bone” crashes, which have a higher likely hood of death or serious injury as result.

Long term road improvements in the area

11. The Egmont Rd / SH3 has been identified by Waka Kotahi as requiring attention, but I am unaware of any definitive improvement plans. One possible solution is to signalise the intersection, but to my knowledge this has not been fully investigated. Another solution was to reduce the intersection to left in /left out only with all right turning movements transferred to

the Katere Rd intersection, when it is upgrade to signals as proposed in the Bluehaven Development consent application. Recent coverage in the media suggests that Bluehaven are no longer proceeding with the development of the former Ravensdown site. NPDC understands that a new development is likely, but it is not certain that the upgrade to Katere Rd intersection will proceed.

12. Waka Kotahi has also indicated a preference to reduce the speed limit of SH3 from Egmont Rd west to 60 kph and they are currently consulting with the public as part of this process. The change in speed will only have a minor effect on the crashes occurring but will potential reduce the severity of crashes that do occur. This effect of this change is limited by the intersection approach speed from the east and in my opinion to be truly effective the Bell Block Bypass speed limit should be reduced to 80 kph as well.
13. New Plymouth District Council have also proposed an indicative road between Egmont Rd and Henwood Rd in the Proposed New Plymouth District Plan (PDP), located some 600m south of this sub-division which would reduce the detour length to Bell Block. Again whilst this is proposed in the Proposed District Plan it is not currently funded and therefore its timing is uncertain.

Discussion

14. Whilst I have not quantified the level of traffic generation from the proposed subdivision it is likely to increase the right turning movement out of Egmont Rd. When an intersection is operating at or near full capacity the impact of increased traffic volumes has a near exponential effect on delays and hence queue lengths. Given the separation between the highway intersection and the Hurlstone Dr intersection a small increase in traffic volumes could easily see the queue from the highway intersection extend into and beyond the Hurlstone Dr intersection. This would then potentially block the right turn movement into Hurlstone Dr resulting in an increase in queues building back towards the highway. This and the increase in delays is only likely to have a detrimental effect on the safety performance of the intersection.
15. It should also be noted that the traffic volumes on State highway 3 are only likely to increase due to land development in around Bell Block and Waitara. These increase will further reduce the gaps in the traffic flows on the highway particularly at peak times.
16. The increasing delays at Egmont Rd is likely to encourage drivers to try and utilise either the Katere Rd intersection or the Henwood Rd route. To my knowledge neither the Katere Rd intersection nor the Henwood Route have been analysed to determine the effects of diverted trips on their capacity or safety.

Conclusion

17. From a traffic perspective I consider that further development in this area is likely to impact on the safety and efficiency of the roading network. In order to address these effects a definitive road improvement plan needs to be developed by Waka Kotahi and New Plymouth District Council with committed timelines. In order to achieve this a comprehensive traffic model must be developed, so the effects of all proposed developments can be properly assessed before any further development is considered.

Yours sincerely,

Andrew Skerrett B.Eng
Director