IN THE MATTER OF the Resource Management Act 1991

AND

IN THE MATTER OF Private Plan Change 95 Pencarrow Estate Pongakawa to the Western Bay of Plenty District Plan

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STATEMENT OF EVIDENCE OF BRUCE HARRISON (TRAFFIC)
ON BEHALF OF KEVIN AND ANDREA MARSH

Introduction

1. My full name is Bruce John Harrison. I am a self-employed Transportation Engineer. I have approximately 40 years' experience in the traffic and transportation engineering field. I hold a Bachelor of Engineering (Civil) degree from the University of Canterbury, obtained in 1984. I am a Chartered Member of Engineering New Zealand (CMEngNZ), a member of the Engineering New Zealand Transportation Group and a member of the Institute of Transportation Engineers.

2. I have previously worked for a local authority and also several consulting engineering firms. In these roles I have provided technical advice on traffic and transportation matters associated with a wide range of development proposals and their potential impact on the surrounding road network.

3. I was engaged by Kevin and Andrea Marsh in September 2021 to assess the potential traffic effects of the Application and provide recommendations as to mitigation. As part of this, I prepared a preliminary Transportation Assessment Report dated May 2022, a final Transportation Assessment Report submitted with PC95 dated December 2022, and an updated Transportation Assessment

Report dated August 2023 which responded to requests for further information. This final version of the Transportation Assessment Report ('TAR') is referred to in the interests of brevity throughout my evidence where necessary.

Code of Conduct for Expert Witnesses

4. I confirm that I have read the Environment Court's Code of Conduct for Expert Witnesses, as contained in Section 9 of the Environment Court's Practice Note 2023, and I agree to comply with it.

5. The data, information, facts and assumptions that I have considered in forming my opinions are set out in my evidence that follows. The reasons for the opinions expressed are also set out in the evidence that follows.

6. I confirm that the matters addressed in this brief of evidence are within my area of expertise, with the exception of where I confirm that I am relying on the evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from my opinions expressed in this brief of evidence. I have specified where my opinion is based on limited or partial information and I have identified any assumptions I have made in forming my opinions.

Scope of evidence

7. My evidence will cover:

   (a) An overview of the existing transport environment in the surrounding area;

   (b) The relevant transportation provisions of the proposed plan change;

(c) A summary of my assessment of the potential operational and safety effects on the transportation network as a result of the plan change application, and recommendations to address effects as required;

(d) A response to the matters raised in submissions;

(e) A response to the matters raised in Council's s 42A report; and

(f) Comment on the proposed rules as relevant to achieving recommendations in respect of transportation effects management.

8. I have read and am familiar with the private plan change application, the submissions, the s 42A report and the proposed plan change. I have visited the site on a number of occasions.

9. I am also familiar with the Safe System Audit carried out by Abley Consultants dated 18 July 2023.

Executive summary

10. In summary I consider that:

(a) The proposed carriageway width of Arawa Road between SH2 and the site access is appropriate to accommodate the expected increase in traffic.

(b) The expected increase in traffic is able to be accommodated on the existing SH2 carriageway with minimal effects.

(c) With the proposed upgrade of the intersection of SH2 and Arawa Road, the intersection is expected to operate efficiently with low delays, minimal queues, and a high level of service, with no need for drivers to take risks when turning in and out of Arawa Road.

(d) I consider that an overall reduction in vehicle kilometres travelled is likely.

(e) The internal legal road widths will be adequate to provide appropriate road carriageway widths while allowing for the provision of utilities, in accordance with the current WBOPDC design requirements.

Existing transport context

11. A description of the existing road network is given in section 3 of the TAR. To summarise:

(a) Arawa Road is a Local Road with a sealed carriageway that varies in width from about 5.0 m to 6.5 m.

(b) SH2 is a Strategic Primary Arterial with a 13.6 m wide carriageway, marked with a single lane of traffic lane in each direction. A right turn bay is provided at the intersection with Arawa Road.

(c) The intersection of Arawa Road and SH2 is a Tee intersection, with Give Way control on the Arawa Road approach.

(d) Arawa Road has a 40 km/h speed limit, while SH2 has a 100 km/h speed limit.

12. I have updated the traffic count data given in section 4 of the TAR. In summary, the average daily traffic (ADT) volume on Arawa Road is approximately 350 veh/day, while the ADT on SH2 is 7,056 veh/day.

13. Details of the latest five-year crash history are given in section 5 of the TAR. An update of the crash history has not identified any additional reported crashes on Arawa Road or at the intersection with SH2.

Proposed plan change

14. It is proposed to re-zone 10.03 ha of land at 1491 State Highway 2, Pongakawa, from Rural to a mixture of Residential and Commercial. A total of 9.66 ha of land is proposed as Residential (which includes multiple reserve spaces, overland flowpath, and roading and utility corridors), with the remaining 0.37 ha proposed as Commercial. This is expected to enable delivery of a maximum of 120-130 dwellings and a small commercial area accommodating a local shop/café/community health hub or flexible use space for community services. The proposed wastewater treatment system and disposal area north-east of areas to accommodate development would remain zoned Rural.

15. The plan change is proposed to enable supply of housing and community/social infrastructure to the Pongakawa residential community, responding to growth in intensive horticulture and the establishment of the Rangiuru Business Park in the area. Full details of the particulars of the proposal are covered in the planning evidence of Mr Coles and Mr Murphy.

16. The proposed roads within the plan change area consist of a single internal loop road with a single Tee intersection onto Arawa Road.

17. To manage the transportation effects of the plan change, it is proposed to widen Arawa Road to 8.5 m and to upgrade the intersection with SH2 to provide an auxiliary left turn lane. A short section of Arawa Road will be provided with a 6.5 m wide carriageway, to act as a threshold treatment.

Traffic Generation

18. The expected traffic generation of the plan change area is given in section 7.1 of the TAR. This assessment was carried out assuming that the commercial area would serve the local area with little external traffic. To provide a more

conservative assessment and to respond to concerns raised in submissions, I have updated the traffic generation assessment so that 50% of the traffic associated with the commercial centre is external traffic.

19. Based on a site coverage of 25%, the commercial area is expected to have a gross floor area (GFA) of approximately 925 m². Using traffic generation rates provided in the RR453 report, the proposed residential and commercial activities within the plan change area have an expected external daily traffic generation of 1,636 veh/day, with a peak hour traffic generation of 195 veh/h.

20. Including the existing residential development on Arawa Road and Penelope Place gives a forecast ADT volume on Arawa Road at the intersection with SH2 of 2,120 veh/day, with a peak hour volume of 249 veh/h.

21. Section 7.2 of the TAR adopted a distribution of 75% of generated residential traffic to and from the west, with 25% to and from the east. This reflected the main employment centres being located to the west of the site. As the proposed commercial centre is expected to serve the surrounding rural area, a distribution of 50% to and from the west, with 50% to and from the east, has been adopted for this update. The expected peak hour turning movements, shown on Figure 6 of the TAR, have been updated as shown below.

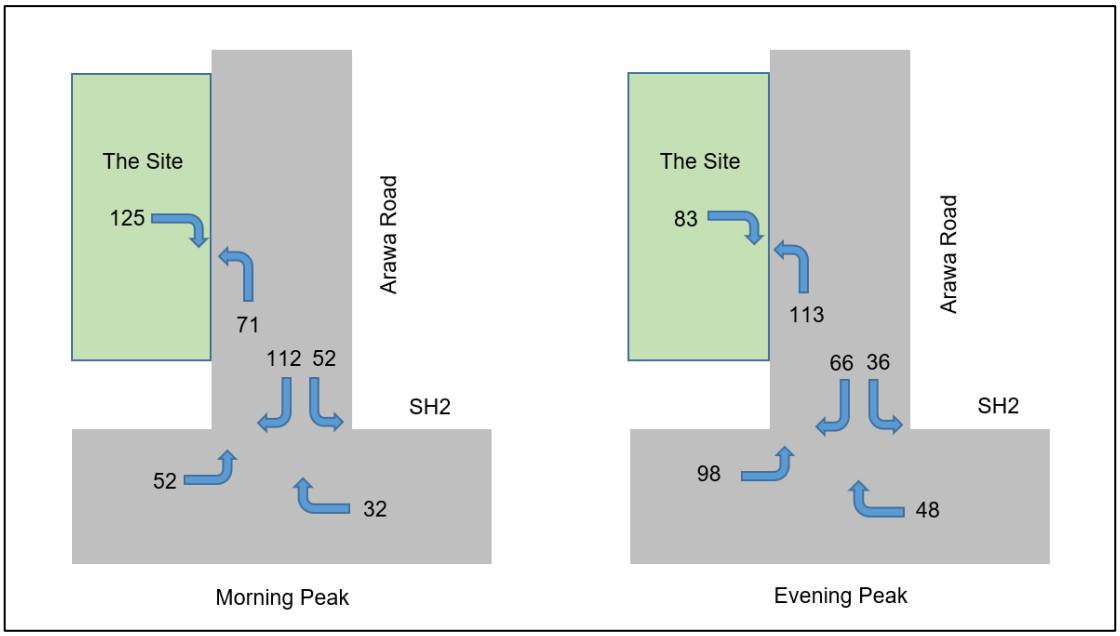

Figure 1: Peak Hour Turning Movements

22. Figure 1 shows turning movements of up to 112 veh/h turning right out of Arawa Road in the morning peak and up to 98 veh/h turning left into Arawa Road in the evening peak.

23. The expected increase in traffic on the adjacent roads is given in section 8.1, Table 4 of the TAR. This is updated in the following table.

Road	Location	Existing ADT	Increase	Expected ADT
Arawa Road	North of SH2	484	1,636	2,120
SH2	East of Arawa	7,056	572	7,628
	West of Arawa	7,056	1,064	8,120

Table 1: Expected Increase in Daily Traffic (veh/day)

24. Table 1 shows an expected ADT volume on Arawa Road of 2,120 veh/day, with up to 8,120 veh/day on SH2.

Traffic Effects – Arawa Road

25. Section 8.1 of the TAR notes that, for urban roads with an ADT of between 1,000 veh/day and 2,500 veh/day, the District Plan specifies a minimum

carriageway width of 8.5 m. This width allows for the two-way movement of vehicles, with parking on one side of the road. Section 5.4 of the Safe System Audit has identified that this width could lead to increased vehicle speeds and an increased likelihood of crashes, so recommended a width of between 6.5 m and 7.0 m. In accordance with the safety audit, the TAR recommended that Arawa Road, between SH2 and the site, be widened to 6.5m.

26. Subsequent to the preparation of the TAR, Council has expressed a preference for an 8.5 m wide carriageway, to retain the on-road parking. It is therefore now proposed to widen Arawa Road to 8.5 m between SH2 and the site, however, to reduce the width to 6.5 m over a length of 40 m immediately north of the intersection with SH2. This section of road with a reduced width is intended to act as a threshold, to reduce vehicle speeds entering the residential area.

Traffic Effects – SH2

27. Table 1 of my evidence shows that the ADT on SH2 to the west of the site is expected to increase to 8,120 veh/day. This is an increase of approximately 15%. Section 8.1 of the TAR notes that, for rural highways with an ADT greater than 3,000 veh/day, the Austroads *"Guide to Road Design Part 3: Geometric Design"* recommends a carriageway with two, 3.5 m wide traffic lanes and 1.5 m wide sealed shoulders, giving a total sealed carriageway width of 10.0 m. The existing 3.5 m wide traffic lanes with 1.8 m wide shoulders exceed this minimum requirement. I therefore consider that the expected increase in traffic is able to be accommodated on the existing SH2 carriageway with minimal effects.

Safety - Intersection of Arawa Road and SH2

28. An assessment of the warrant for the provision of auxiliary lanes at the intersection of Arawa Road and SH2 is given in section 8.3 of the TAR. This

identified that auxiliary left and right lane lanes are warranted. With the revised traffic generation, as given above, the auxiliary lanes are again warranted.

29. Section 5.3 of the Safe System Audit identified a concern that the standard design of a channelised left turn could result in a dynamic visibility obstruction for drivers exiting Arawa Road. The auditors therefore recommended providing an offset left turn treatment. The preliminary design of the intersection of SH2 and Arawa Road is shown on Drawing 03 of the TAR. This shows the right turn bay re-marked in accordance with the relevant requirements and the provision of a 70 m long (inclusive of taper) offset auxiliary left turn lane.

30. Section 5.2 of the audit also noted safety issues associated with the existing guardrails on SH2 and recommended that the proposed new barrier is designed by a Waka Kotahi accredited designer in accordance with NZTA M23:2022 *"Specification and guidelines for road safety hardware and devices"*. I have recommended that the barrier be designed accordingly.

31. The expected operational performance of the intersection of Arawa Road and SH2 is given in section 8.5 of the TAR. I have updated this to reflect the updated traffic generation, as given in the following table.

Peak Hour	Approach	Movement	Degree of Saturation	Average Delay (s)	Queue (veh)	Level of Service
Morning Peak	SH2 East	Through	0.136	0.0	0.0	A
		Right	0.037	9.5	0.1	A
	Arawa Road	Left	0.351	6.4	1.7	A
		Right	0.351	13.1	1.7	B
	SH2 West	Left	0.030	7.9	0.0	A
		Through	0.189	0.0	0.0	A
Evening Peak	SH2 East	Through	0.197	0.0	0.0	A
		Right	0.057	9.6	0.2	A
	Arawa Road	Left	0.253	5.5	1.0	A

		Right	0.253	14.8	1.0	B
	SH2 West	Left	0.056	7.9	0.0	A
		Through	0.176	0.0	0.0	A

Table 2: Intersection Operational Performance

32. Table 2 shows that the intersection is expected to operate efficiently with low delays, minimal queues, and a high level of service. The expected efficient operation of the intersection indicates that there will be no need for drivers to take risks, such as adopting smaller gaps in the traffic, when turning in and out of Arawa Road.

Ten-Year Intersection Capacity

33. The Transportation Assessment Report included an assessment of the ten-year capacity of the intersection of Arawa Road and SH2. This has been updated to allow for the increased traffic volume on SH2 and the additional external traffic generation of the commercial site. The expected operational performance of the intersection with the additional ten-year traffic growth is given in the following table.

Peak Hour	Approach	Movement	Degree of Saturation	Average Delay (s)	Level of Service	Queue (veh)
Morning Peak	SH2 East	Through	0.183	0.0	A	0.0
		Right	0.044	10.4	B	0.2
	Arawa Road	Left	0.499	9.8	A	2.5
		Right	0.499	21.4	C	2.5
	SH2 West	Left	0.030	7.9	A	0.0
		Through	0.254	0.0	A	0.0
Evening Peak	SH2 East	Through	0.264	0.0	A	0.0
		Right	0.066	10.5	B	0.2
	Arawa Road	Left	0.386	8.4	A	1.6
		Right	0.386	25.2	D	1.6
	SH2 West	Left	0.056	7.9	A	0.0
		Through	0.236	0.0	A	0.0

Table 3: Intersection Ten-Year Operational Performance

34. Table 3 shows that the intersection is expected to continue to operate efficiently with low to moderate delays and an acceptable level of service. Again, the expected efficient operation of the intersection indicates that there will be no need for drivers to take risks when turning in and out of Arawa Road.

Internal Road Design

35. Section 10 of the TAR notes that, as only a plan change is proposed at this stage, details of the design of the internal roads, the internal intersection, and the intersection with Arawa Road, are not yet precisely known. The Structure Plan for the area has been developed with 17 m to 20 m-wide road and utility corridors. I consider that these legal road widths will be adequate to provide appropriate road carriageway widths while allowing for the provision of utilities, in accordance with the current WBOPDC District Plan and 2009 Development Code requirements (for example, Rule 12.4.4.2 – Proposed Road requirements). I recommend that the design be considered in further detail as part of the subdivision consent as the next stage of the process, which is a standard recommendation.

36. A review of the proposed location of the intersection of the internal road and Arawa Road was given in section 10 of the TAR. This identified that the proposed intersection separation distances comply with the requirements of both the NZTA Planning Policy Manual (PPM) and the Development Code.

Multi-Modal Travel

37. Section 12 of the TAR notes that, as the site is located within an essentially rural area, there are no pedestrian footpaths. Since the report was prepared, a footpath has been constructed on the south-eastern side of Arawa Road, between SH2 and Penelope Place. A footpath is also provided on one side of Penelope Place.

38. The proposed structure plan includes the provision of an additional footpath on Arawa Road adjacent to the commercial site, as well as a mid-block footpath connection to Arawa Road. The Development Code will require that footpaths also be provided on both sides of the subdivision internal roads. These footpaths will accommodate the movement of pedestrians within the site, including to and from the proposed commercial area, which will reduce the need for external vehicle trips.

39. A school bus shelter is provided on the eastern side of Arawa Road, immediately north of SH2 intersection. To make it safer for buses to turn, and to allow for possible future additional bus services, it is proposed to provide a bus stop within the commercial site. This will provide a safer bus stop location than the current reliance on the SH2 shoulders for bus stopping and picking up locations.

40. Council has recently prepared an "Arawa Road Recreational Opportunities" plan. This plan includes the recently provided footpath on the eastern side of Arawa Road, together with the use of the north-eastern, paper road section of Arawa Road as a walking and cycling connection to Wharere Road. The Pukehina Ratepayers and Residents Association also propose a Pukehina Cycle and Walkway, which is planned to extend from Pukehina to Wharere Road. Together, when completed, these two projects will provide a pedestrian and cycle link between the Arawa Road and Pukehina areas.

Safe System Audit

41. A Safe System Audit of the proposed upgrade of the intersection of SH2 and Arawa Road has been carried out by Abley Consultants. The report identified the following concerns:

    (a) Speed Limit on SH2. Section 5.1 of the audit identified that the speed limit on SH2 exceeds the Safe and Appropriate Speed (SAAS) for this

section of road and recommended that the applicant work with the Road Controlling Authority (NZTA) to reduce the speed limit. If a permanent speed limit cannot be considered in the appropriate timeframe, options to install an Intersection Speed Zone for Arawa Road could also be considered. While a reduced speed limit is supported, I note that this is the responsibility of NZTA.

(b) Proposed barrier on SH2. Section 5.2 of the audit identified several potential issues with the installation of the proposed guardrail along the northern side of SH2 and recommended that the guardrail be designed by a Waka Kotahi accredited designer in accordance with the relevant NZTA specification. Consideration may need to be given to relocating power poles and to relocating or piping the existing stormwater swale. This recommendation is supported and has been incorporated into the revised concept design of the intersection.

(c) Channelised left-turn creating dynamic visibility obstruction. The original concept design did not include separation between the proposed auxiliary left-turn lane and the through traffic lane on the eastbound approach to Arawa Road. This could lead to a dynamic visibility obstruction for drivers exiting Arawa Road. Section 5.3 of the audit recommended offsetting the auxiliary left-turn treatment so that left-turning vehicles do not obstruct visibility for drivers emerging from Arawa Road. This recommendation is supported, and the offset treatment has been incorporated into the revised concept design.

(d) Proposed widening of Arawa Road. It was previously proposed to widen Arawa Road to 8.5 m to accommodate the additional traffic. Section 5.4 of the audit identified that this could lead to an increase in vehicle speed, leading to an increased likelihood of crashes. The audit recommended reducing the proposed width of the Arawa Road carriageway to 6.5 m – 7.0 m, or consider a gateway treatment to

reinforce the 40 km/h speed limit. While a narrower carriageway width is supported, Council has expressed a preference for an 8.5 m wide carriageway, which will allow for on-road parking. It is therefore proposed to widen Arawa Road to 8.5 m, but to incorporate a 40 m long section of narrower carriageway, with a width of 6.5 m, which will act as a threshold treatment to reduce the speed of vehicles entering Arawa Road.

Staging

42. The site is proposed to be developed in stages, as shown on the proposed structure plans. The proposed staging will require the widening of Arawa Road, the construction of the new intersection on Arawa Road, and the upgrade of the SH2 intersection, in conjunction with the development of Stage 1. This will ensure that appropriate transportation infrastructure will be in place for each stage of development.

Submissions on the plan change

43. I have reviewed the submissions received on the proposed plan change. The relevant transportation matters are addressed below.

Increased proximity to employment, car dependency

44. Numerous submissions raise the positive effect of staff and workforce being able to reside closer to places of employment or volunteer emergency services in the area[1]. Some submitters question whether or not the housing will actually service local kiwifruit industry employees or the local Rangiuru Business Park, and only creates a car-dependent settlement[2].

[1] Submitters Pongakawa School, Maketu Coastguard, Shane Beech ,Maketu Volunteer Fire Brigade, Te Puke Economic Development Forum, David Hamilton, Paul Hickson, Scott Adams
[2] Submitters Julian Clayton, Mike Massen, Rebecca and Cameron Black, BOPRC

45. It is difficult to quantify any change to the vehicles kilometres travelled (VKT) due to the numerous variables involved. This however is relevant to this submission point.

46. The delivery of the proposed dwellings reflects the potential for people to move and live in Pongakawa through an opportunity that otherwise does not exist at present. Noting the trip patterns presented in the Insight Economic reporting attached to the s.42A report, 60% of people living in Pongakawa, work in Pongakawa. A share of 60% of trips from the plan change equates to 982 trips per day. If these trips are replacing trips to sources of employment in Pongakawa that are otherwise being made from locations further away, due to being unable to live in Pongakawa, then in my view this represents the potential for a reduction in VKT.

47. As a general observation, the location of additional dwellings in close proximity to employment areas will generally reduce VKT associated with trips to and from work within those areas. On the other hand, the population increase may commensurately increase all employment trips as well as non-work trips such as to and from shops and other services. This must be placed in the context of the same trips already occurring elsewhere. I expect that, with the inclusion of the small commercial centre providing local services, and with the proximity of the site to rural employment opportunities in Pongakawa and in other nearby places (Rangiuru and Te Puke), an overall reduction in VKT is likely.

48. While the residents of the site will be car dependent, this is typical of those who work in rural areas. The proposed provision of a bus stop in the commercial centre will provide a safer location when compared to the existing location and would be a direct improvement to existing school bus services in the area servicing Pongakawa school and schools in Te Puke. It may also, over time, service existing commuter/regional connection bus routes utilising SH2 and any additional bus services to be provided.

Safety at SH2 intersection

49. The majority of submissions in opposition to the proposal raise concerns with the existing safety issues at this intersection and the potential for these to be exacerbated by the additional residents within the plan change area using Arawa Road. Several submissions appear to note the positive effect of the plan change in addressing this intersection[3].

50. The proposed plan change includes the upgrade of the SH2 intersection to include an offset auxiliary left turn lane for vehicles turning left from SH2 onto Arawa Road. The proposed design is in accordance with the required design standards and is in accordance with the recommendations of a safe system audit. This is expected to address the current safety concerns with the intersection and to provide sufficient capacity for future traffic growth on SH2.

51. Submitter 31 (Rebecca and Cameron Black) noted the variability of rural work and traffic movements. While rural work may result in vehicle movements throughout the day, in terms of traffic effects it is the peak hours that are most critical and have been adopted for this assessment.

52. I understand that, at a meeting with submitters in March 2024, submissions were spoken to stating that a 30 m deceleration lane is being proposed which will result in no material improvement in safety beyond the current situation. The latest design for the intersection shows that a 70 m long left turn lane is proposed (inclusive of the taper) and that this lane will be offset from the through traffic lane to minimise the potential for a left turning vehicle to create a dynamic visibility obstruction to a vehicle turning left or right out of Arawa Road. The proposed design is in accordance with current best practice and is as recommended by the safe system audit. I consider this to be a significant improvement over the current intersection layout, that will benefit all users of the intersection.

[3] Submitters Lisa McArthur, Neville and Gill Marsh.

Adequacy of Arawa Road as subject to increased traffic, adequacy of proposed roads

53. Several submissions raise concerns with the adequacy of Arawa Road as subject to increased traffic as a result of the plan change either specifically[4] or as an extension of potential safety issues at the SH2/Arawa Road intersection. One submission also raises a question on the width of proposed internal roads, in the context of suitability for emergency vehicles[5]. It is proposed that Arawa Road, between SH2 and the site access, will be upgraded and the internal roads will be constructed to the applicable standards. This will ensure that the roads are of an appropriate width to accommodate the expected traffic volumes and the movement of emergency vehicles.

Section 42A report

54. I confirm that I have read Council's Section 42A report and am in general agreement with the comments made in the report.

55. Sections 12.47 to 12.49 of the Section 42A report comment on access by fire appliances. I note that the concept design shown on the proposed Structure Plan is based on WBOPDC District Plan road corridor width requirements, is indicative, and will be subject to detailed design. This design will need to comply with the appropriate design standards, including the Development Code, and will be subject to Council approval. The design will need to balance providing sufficient road width to accommodate service vehicles, including fire appliances, while minimising the available width to discourage excessive speeds. My initial review indicates that, with some minor easing the curve radii, emergency fire appliances will be able to be accommodated.

[4] Submitters Mike Massen, Gaye Allan, Jodi Ahfook, Tai Ahfook, Gina and David Brookes
[5] Submitter Robin Simmonds

Comments on proposed rules

56. I have reviewed the recommended changes to the staging prerequisites, as given in sections 12.50 and 12.51 of the Section 42A report and consider that these are appropriate.

Conclusion

57. Kevin and Andrea Marsh propose to re-zone land at 1491 State Highway 2, Pongakawa, from Rural to a mixture of Residential and Commercial. This is expected to enable the provision of 120-130 dwellings as well as a small commercial area.

58. The plan change area has an expected external daily traffic generation of 1,636 veh/day, with a peak hour traffic generation of 195 veh/h. I expect that approximately 75% of generated residential traffic will travel to and from the west, with 25% to and from the east. As the commercial centre will serve the surrounding rural area, I expect that approximately 50% of the traffic associated with the commercial centre will travel to and from the west, with 50% to and from the east.

59. Based on this distribution, I have assessed turning movements at the intersection of SH2 and Arawa Road of up to 112 veh/h turning right out of Arawa Road in the morning peak and up to 98 veh/h turning left into Arawa Road in the evening peak.

60. The ADT volume on Arawa Road is expected to increase to 2,120 veh/day, while the ADT on SH2 west of the site is expected to increase to 8,120 veh/day.

61. It is proposed to widen Arawa Road to 8.5 m between SH2 and the site, however with a 40 m long section 6.5 m wide. This is intended to act as a threshold, to reduce vehicle speeds. I consider this to be appropriate.

62. I consider that the expected increase in traffic on SH2 is able to be accommodated on the existing carriageway with minimal effects.

63. The intersection of SH2 and Arawa Road is proposed to be upgraded with the provision of an offset auxiliary left turn lane, as recommended by the Safe System Audit. The intersection is expected to operate efficiently with low delays, minimal queues, and a high level of service. I consider that the design is appropriate and that there will be no need for drivers to take risks when turning in and out of Arawa Road.

64. I consider that an overall reduction in VKT is likely.

65. The Development Code will require footpaths to be provided on both sides of the subdivision internal roads. A footpath is also proposed on Arawa Road adjacent to the commercial site. The footpaths will accommodate the movement of pedestrians within the site and will reduce the need for external vehicle trips.

Bruce Harrison
24th October 2024