

The Rise Limited, Private Plan Change PPC83: Further Information Request; initial comments and recommended approach by Dean Scanlen

Each item in the RFI is reproduced in black followed by Dean's comments/recommendations in green.

Main RFI Item A

The importance of Cove Road and the Old Waipu Road connection as a possible bypass for SH1 together with the present Mangawhai Heads Road may play a role hence the request to look at the intersection of Pigeonwood Place but also the intersection of Mangawhai Heads Road.

It is not standard practice to assess the impact of a proposal during highly unusual/extreme conditions such as the diversion of traffic due to a closure of a major road route. In fact, such has never had to be considered in the past, including in Mangawhai Heads, and neither does the district plan specify, nor even refer to, this effect.

1. TIA states that the intersection of Pigeonwood Place and Cove Road might warrant a CHR - request applicant to provide us an approximate estimate of lots accessed of Pigeonwood Place/Cove Road and an approximate estimate of lots accessed off Mangawhai Heads Road.

It is estimated that 130 to 140 lots will lead to Pigeonwood Place at full development of its catchment as anticipated, with as many as 240 leading to Mangawhai Heads Road. There is ample space within road reserve for a right-turn bay at Pigeonwood Place if/when this is required as a future consent condition.

2. Precinct Plan – this should include indicative collector roads and intersection locations with Cove and Mangawhai, otherwise it could develop as a bunch of cul-de-sacs if there are multiple landowners.
[Mostly a planning question for Melissa, I have nothing to add at this stage.]
3. Has the applicant considered providing Local Reserve within the Precinct? With the government working towards carbon emission reduction, we would like the applicant to consider this possibility to reduce the additional trips generated.
[Melissa?]

4. Request the TIA to carry out Modelling assessment for new roads intersecting with Cove Road or Mangawhai Heads. Given there are not any specified within the Precinct Plan, assuming the worst case that there is only 1 intersection onto each road (i.e. traffic from the development is concentrated through 2 new intersections)

The primary, perhaps only, consideration at this stage is that adequate space is available for intersections likely to be required with future subdivision within the precinct. In most cases, the road reserve will be able to be widened on the site side of the frontage roads as necessary. Even if this is not possible, a right-turn bay is very likely the largest treatment required at all intersections [footnote: Even the busiest – the Cove Road/Mangawhai Heads Road intersection as shown later]. The road reserve is 20 metres wide throughout the frontages of both Cove Road and Mangawhai Heads Road. There is ample space within such road reserves for a right-turn bay if/when this is required as a future consent condition. In fact, there is an existing right-turn bay on Cove Road for Mangawhai Heads Road and the road reserve on that part of Cove Road is 20 metres wide.

5. Safety and modelling assessment for Tara/Kaiwaka Mangawhai Road (holiday peak modelling only).
This intersection is 8 kilometres from the site and will only be used by a small proportion of the traffic generated by the proposal – estimated at only 3 to 4% being some traffic that travels to/from Auckland (not all such traffic because Tara Road is not part of the shortest route or most direct route to/from

Auckland). So it is estimated that the proposal will increase the traffic through this intersection by no more than 1.5%. As such, an assessment of that intersection is not warranted.

6. In the TIA it has been stated that video monitoring was carried out in November 2021 (during Covid restrictions) – request applicant to carry out traffic counts during baseline (school period) and summer period and utilise that information to determine the traffic effects.

This is not necessary. Continuous counters on roads that have them, and are subject to significant seasonal traffic, provide an adequate proxy for the seasonal variations in locations like this. Such a proxy has been applied to the traffic generation estimates in the RFI, with allowance for the fact that houses in this location are more likely to be used as primary residences than dwellings closer to the coast, so will be occupied for a higher proportion of the time, with the associated traffic less subject to seasonal increases.

7. Request applicant to carry SIDRA modelling for all the intersections within their frontage including Pigeonwood Place, Robert Hastie Drive, Cove Rd/Mangawhai Heads Rd, and Mangawhai Heads Road/Cullen Street/Molesworth Drive.

SIDRA modelling has been carried out for the Cove Rd/Mangawhai Heads Rd intersection as shown later and an existing model has been updated for the existing roundabout.

The roundabout model is based on a combination of monitoring and recent traffic counts, plus it includes the estimated traffic from two large subdivisions recently applied for on Cullen Street and 30% growth in existing traffic (representing some 10 years of future growth). It is estimated that the plan change will add another 150 vehicle movements through the roundabout during peak hours during holiday periods, more than 80% of which is expected to travel to/from Molesworth Drive and almost all of the remainder will travel to/from Mangawhai Heads Road east. Movement summaries from this analysis are appended. It shows that, even during those hours, the roundabout will continue to operate at an overall level of service A, with average delays less than 8 seconds, maximum delays less than 13 seconds and 95 percentile queues of only 7 vehicles on the busiest approach. The roundabout's operation will be even better at other times. This confirms the previous assessment that the roundabout has more than adequate capacity to cope with the traffic from the proposal. In any event, decisions on transport infrastructure are almost never based on absolute peak hours like this. With future intersections likely to be necessary for future subdivision, the only consideration is that adequate space is available. As shown in the response to question 4, such space is currently available. Request applicant to carry Safe System Assessment of all the intersections along their frontage including Pigeonwood Place, Robert Hastie Drive, Cove Rd/Mangawhai Heads Rd, and Mangawhai Heads Road/Cullen Street/Molesworth Drive and the report is to address the effects at these intersections and propose a primary treatment.

This is not necessary for the reasons already given and the additional reason that, apart from Pigeonwood Place, the eventual locations of intersections are not even known. Safe System Assessments might be warranted at future consent stages, but not at the stage of a plan change.

This said, a recent crash at the Cove Rd/Mangawhai Heads Rd would be fully addressed with a central island on the side road. There is ample space at the intersection location for this and it is an existing issue that should already have been addressed. There are some sightline restrictions in relation to the roundabout, but no crashes have been reported on it since at least the start of 2018, the relatively small increase in traffic from the plan change is unlikely to increase this risk significantly and, even if it does, some vegetation trimming and a small volume of earthworks is all that will be necessary to address the issue. This is another existing issue that should already have been addressed.

Overall, we maintain that no significant work is warranted at existing intersections as a result of additional traffic from this plan change.

8. The Plan outlines the indicative street and cycling connection on Mangawhai Heads Road but does not address the effects on the existing footpath on Mangawhai Heads Road and have shown an indicative off road shared path connecting to an existing footpath which would not be ideal. Request applicant to address this.

Again, it is only necessary that space be available for future installations or upgrades of such facilities. A future footpath along Mangawhai Heads Road is likely to be 1.8 metres wide and there is ample space within the road reserve for this even if the necessary space cannot be made available along site frontages (and it is likely this will be feasible). There is absolutely no reason why shared paths cannot be connected to footpaths. In fact, such is common, an example being the Hatea Loop path in Whangarei.

9. Request TIA to address the effects on Pigeonwood Place due to this proposed plan change both traffic effects and active modes.

Pigeonwood Place has a legal corridor 20 metres wide. This is ample space for any future traffic and upgrades for active modes, even with the catchment of the road at full development. It is noted that the traffic on most of Pigeonwood Place will be less than 1,500 movements per day at full development even during holiday periods. This is a long way from a busy urban road, so special treatments that might be especially space intensive will simply never be necessary.

10. TIA has stated that a future possible connection to Cullen Street can be made – request TIA to further address the effects on Cullen Street and the roundabout due to this additional movements and the active modes along Cullen Street.

The recommendation is simply for such a future link to be facilitated. Any such link would rely on land outside the plan change area, so is far from certain. The effects on Cullen Street would have to be evaluated at the time in which such a link is actually proposed but this is not warranted at this stage.

11. Has the applicant considered future growth while undertaking the assessments of the intersection[s]? If not request applicant to consider 10% future growth especially for Mangawhai Heads Road/Cove Road intersection, Mangawhai Heads Road/Cullen Street/Molesworth Drive, and the effects on Cove Road/Pigeonwood Place once Robert Hastie Drive has been fully developed/occupied.

The average daily traffic on both Cove Road and Mangawhai Heads Road is currently less than 2,500 movements per day - well below the level of traffic that can create capacity issues even at conventional tee intersections. In particular, Molesworth Drive currently carries traffic close to 10,000 movements on an average day and has a number of conventional tee intersections on it. One – Wood Street, carries close to 5,000 movements and three others carry close to 1,000 movements on an average day. The speed limit is lower at all of those intersections, but this does not have a significant influence on the capacity of the most challenging turn – right turns out of the side road. Wood Street has a right-turn bay but, as already shown, there is ample space for right-turn bays at all future intersections along the frontage of the plan-change precinct area if/when those are warranted. There are also numerous other intersections in much busier locations in locations with similar or higher speed limit. Examples are the intersections of Mangawhai Road, Baldrock Road, SH12 (Brynderwyn), Marsden Point Road, Mangapai Road, Maungakarama Road and Portland all on SH1N. No upgrades that would have a material impact on the capacity of those intersections are proposed. While Mangawhai is growing more rapidly than most, the traffic along the road frontages of the plan-change precinct will not reach the levels at any of the cited locations for many decades, probably never.

12. Request a minimum of 4.5m setback from the road boundary based off Exposure Draft District Plan.

Melissa

13. Request applicant to include commercial/industrial activity as a Discretionary Activity or Non-complying in the District Plan.

Melissa

14. The minimum lot sizes proposed is 400sq.m and the TIA has assumed that the lot sizes are 1000sq.m to determine the number of lots that can be accommodated. Request the TIA to address the possibility for smaller 400-500sq.m lots in these sections, which would create additional effects. Request TIA to address this possibility and carry out SIDRA modelling accordingly.

The average lot size estimated in the TIA was agreed by all project team members. It is based on a number of factors including the larger minimum lot size specified for part of the area (including the northern slope), the need for space for access, reserves, other services and the likelihood that some ground will be unsuitable for the establishment of dwellings. We maintain that an average 1,000 sq.m lot area is realistic and, also for the reasons already given, disagree that it is necessary to revisit the analysis.

15. Request applicant to carry out SIDRA modelling to determine if the one-lane bridge on the southern end of Cove Rd/Mangawhai Heads Rd would be able to accommodate the additional traffic generated. While we note there are many one-lane bridges throughout Northland which carry higher ADT than this one, Mangawhai is developing at a rapid rate and has a higher volume during the summer periods. Hence, we would like the modelling to be undertaken.

This analysis has been carried out and finds that the bridge has capacity for at least 1,000 vehicle movements per hour (total in both directions), even with a bias in one direction - only likely outside peak holiday periods. The bridge has been modelled with a conservative "gap acceptance" of 10 seconds and vehicles in both directions giving way. Even at 1,000 vehicle movements per hour, the average delay in the busier direction is predicted at less than 22 seconds, with an overall average delay of 15 seconds. The 95-percentile queue in the busier direction is predicted at 24 vehicles with virtually no queues in the other direction.

The bridge currently carries fewer than 200 movements during peak hours on average days and this is unlikely to increase to more than 300 during holiday periods. Even with growth in Mangawhai being more rapid than average, it will be many decades before the bridges on Cove Road experience levels of traffic that might create significant and/or regular congestion.

16. TIA has stated that the Mangawhai Heads Road/Cove Road intersection has capacity for more than 300 right-turns out of Heads Road even during holiday season – Request applicant to provide further information on how this was determined, was modelling or Austroads treatment check carried out to determine this?

The methodology use is stated in Footnote 18, page 10, of the TIA. It was based on models as described in various Austroads publications.

However, for completeness, a SIDRA analysis has been carried out of the intersection for current traffic plus 30% representing some 10 years of future growth plus traffic from the plan change precinct at full development and during peak hours of holiday periods. This shows that the greatest average delay for any turn – right turns out of Mangawhai Heads Road, will be only 12 seconds, with 95 percentile queues of fewer than 2 vehicles and less than 30% of the practical capacity of the turn. This analysis is conservative because it omits the left turn lane from Cove Road north. The high capacity is partly a result of the low frequency of through movements on the priority route – Cove Road. Summary output of the analysis, both with and without PPC83, are appended.

It is further noted that there is space for the Cove Road/Mangawhai Heads Road intersection to be converted to a roundabout in future. Figure R1 shows an indicative roundabout with an outside diameter of 25 metres. A roundabout is the highest standard of treatment ever likely to be necessary for this intersection.

Figure R1



17. 13.14.2 – Reads “the Cove Road North Precinct Road, Cycleway and Pedestrian Connection
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