ACG Properties Limited

Proposed Luxury Resort
Te Miko

Transportation Assessment

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1. Introduction

1.1. ACG Properties Limited is seeking resource consents for the establishment and operation of a luxury resort at Te Miko, on the West Coast of New Zealand. The facility will have visitor accommodation cabins, a restaurant and bar / lounge, and a spa.

1.2. This Transportation Assessment sets out a detailed analysis of the transportation issues associated with the proposed development including changes in travel patterns that are likely to arise. Where potential adverse effects are identified, ways in which these can be addressed are set out.

1.3. This report is cognisant of the guidance specified in the New Zealand Transport Agency's '*Integrated Transport Assessment Guidelines'* and although travel by private motor vehicle is addressed within this report, in accordance with best practice the importance of other transport modes is also recognised. Consequently, travel by walking, cycling and public transport is also considered.

2. Site Overview

2.1. Location

2.1.1. The site is located on the western side of State Highway 6, approximately 2.5km north of Punakaiki. It is zoned as Paparoa Character Area in the Buller District Plan (**District Plan**).

2.1.2. The location of the site in the context of the local area is shown in Figure 1 and in more detail in Figure 2.

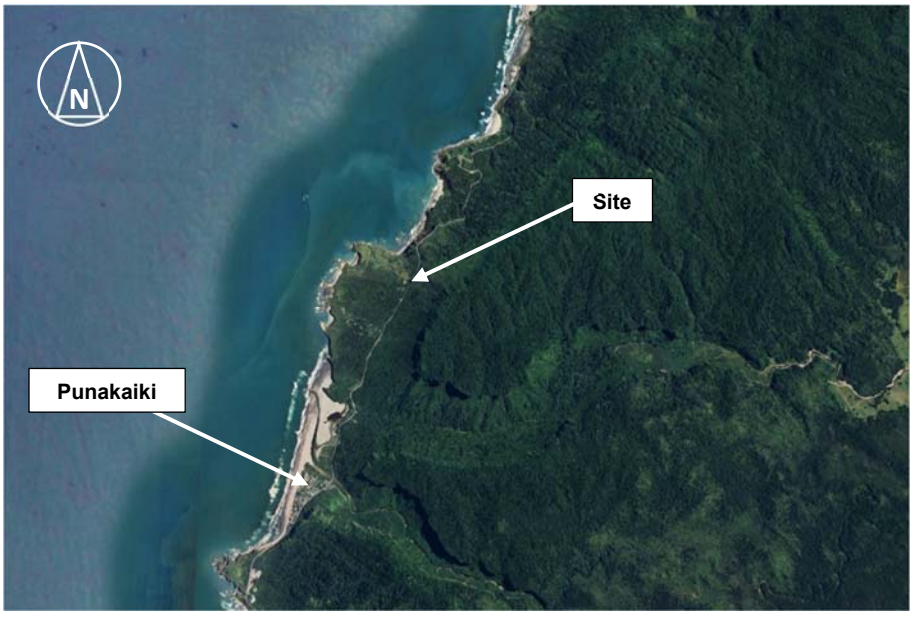

Figure 1: General Location of Site

Figure 2: Aerial Photograph of Site and Environs

2.2. Road Hierarchy

2.2.1. State Highway 6 and 7 is a Strategic Route, the highest in the hierarchy and indicating a role of predominantly carrying through traffic.

3. Current Transportation Networks

3.1. Roading Network

3.1.1. State Highway 6 provides one 3m traffic lane in each direction but with minimal shoulder widening on either side. The highway has a slight gradient descending towards the south, and has a number of horizontal curves. Consequently although the posted speed is 100km/h, it is likely that the highway alignment and narrow carriageway mean that speeds will be lower than this. Based on the curve radii, a speed in the order of 70km/h is more likely.

3.1.2. The existing driveway serving the site is signposted with a 'concealed access' sign. There is also a solid yellow centreline for southbound traffic meaning that vehicles are not permitted to overtake. The site access is presently constructed to Diagram C of the NZTA Planning Policy Manual. Sightlines at the access are presently constrained due to the vegetation.

Photograph 1: State Highway 6 Looking South Towards Site Access

3.2. Non-Car Modes of Travel

3.2.1. The immediate area is characterised by typically rural activities and consequently there are no footpaths or specific infrastructure for cyclists present. Similarly there are no bus services or infrastructure present.

3.3. Future Changes

3.3.1. There are no major changes in infrastructure proposed within any strategic documents of guides that could materially affect the current infrastructure in the area.

4. Current Transportation Patterns

4.1. Traffic Flows

4.1.1. NZTA has a series of traffic counters located on the state highway network around the country. The closest NZTA traffic counter to the site is located some 14km to the south of the site (counter id:00600398) but given the very limited extent of development in the area, it is very likely that these volumes are the maximums that will be passing the site. They show an Annual Average Daily Traffic of 980 vehicles per day (two-way).

4.1.2. The highway have very strong seasonality with far more traffic in summer compared to winter with the December volume being 62% higher than the July volume (1,289 vehicles per day compared to 794 vehicles per day). The average peak traffic volume over the course of 2023 was 94 vehicles (two-way) but the average peak hour during December was 124 vehicles (two-way) with occasional maximums of more than 200 vehicles per hour being recorded.

4.1.3. However even the higher traffic flows are modest and well within the capacity of the highway.

4.1.4. Annual traffic growth on the highway in this location for the five-year period between 2015 and 2019 (that is, prior to any distortions due to travel restrictions associated with the Covid-19 pandemic) was 1.4%, expressed as a percentage of the 2019 figure.

4.1.5. Traffic volumes on the roading network are modest, and traffic growth does not suggest that the volumes could be expected to increase significantly in future. The Austroads Guide to Traffic Management Part 3 ('Traffic Studies and Analysis') sets out thresholds regarding the need for detailed traffic analyses at intersections, and the traffic flows below which detailed analyses of unsignalised intersections are unnecessary. An extract from this is set out below.

Major Road Type	Traffic Volumes (Vehicles Per Hour)	
	Major Road	Minor Road
Two lane road	400	250
	500	200
	600	100

Table 1: Extract from Table 6.1 of Austroads Guide to Traffic Management Part 3 (Intersection Volumes below which Capacity Analysis is Unnecessary)

4.1.6. It can be seen that even the highest hourly volumes (200 vehicles on State Highway 6) fall below these thresholds. Accordingly, no analysis has been carried out at the current site access, rather, the traffic volumes indicate that the access will operate under 'free flow' conditions where delays to vehicles will arise from negotiating the access geometry, rather than due to the presence of other vehicles.

4.2. Non-Car Modes of Travel

4.2.1. Given that the area around the site is largely rural, it can reasonably be expected that it will be infrequently used by pedestrians and cyclists. As such the absence of footpaths and cycling infrastructure is to be expected.

4.3. Road Safety

4.3.1. The NZTA Crash Analysis System has been used to establish the location and nature of the recorded traffic crashes on State Highway 6, over a distance of 500m to the north and south of the site access. Due to the low traffic flows on the highway, the past ten years has been considered (2014 to 2023 plus the partial record for 2024).

4.3.2. This shows that four crashes have been reported. One occurred directly adjacent to the site, when a southbound truck driver lost control of their vehicle after over-running the edge of the carriageway and the vehicle tipping over. The crash did not result in any injuries.

4.3.3. Of the other three crashes, one occurred 450m to the north when a motorcycle rider lost control when travelling around a curve and left the road. The crash resulted in serious injuries to the rider. Two crashes occurred around 450m to the south of the site, and occurred when drivers attempted to negotiate curves. In one case the driver lost control and left the road and in the other instance the driver cut the corner and struck another vehicle head-on. One crash resulted in minor injuries and the other crash resulted in no injuries.

4.3.4. Overall it is not considered that the crash record indicates that this section of the highway network has an inherent road safety deficiency.

5. Proposal

5.1. The proposal is for a visitor accommodation complex, which will provide for:

- Visitor accommodation units: 9 cabins are to be provided with a capacity for 2 people, and 6 larger cabins are provided for families/groups
- Restaurant and Bar/Lounge: This will be able to accommodate up to 140 diners but is expected to only have a typical patronage of 60 diners under normal operating conditions. This part of the site will also be able to accommodate a function.
- A spa: This will be able to accommodate up to 8 people

5.2. Access to the site will continue to be provided via the existing driveway, although this will be improved in respect of width and gradient (as discussed in more detail below).

5.3. The vehicle crossing onto the state highway will be improved to a Diagram D layout, as set out in the NZTA Planning Policy Manual (and shown on drawings produced by East Cape Consulting Limited (which are understood to form part of the application).

5.4. Parking will be accommodated on the site via a central car park accommodating 22 parking spaces, albeit noting that the large site area is such that numerous areas are available for overflow parking as/if required. The cabins will be provided with their own car parks, with these located in the immediate vicinity of the cabins.

6. Traffic Generation and Distribution

6.1. Traffic Generation

6.1.1. The traffic generation will arise from each of the three activities on the site, although not all will coincide at the same time.

6.1.2. Visitor accommodation typically generates peak traffic volumes in the morning, when guests check out (since check-out time is usually a fixed time. Conversely guest check-in occurs over a longer time period, meaning that traffic generation rates are lower. In view of the location, it is likely that guests will select the accommodation because they are seeking to stay somewhere more remote than an urban area, and therefore their extent of trip-making will be reduced. Adopting the median value of NZTA Research Report 453 ('Trips and Parking Ralting to Land Use') the 15 cabins will generate approximately 13 vehicle movements if they are all fully occupied.

6.1.3. Based on the information received, the maximum theoretical capacity for 140 people in the restaurant will occur infrequently. The most likely occurrence of this level of capacity is when a function is being held. However the nature of a function means that a high proportion of attended will also be staying at the site.

6.1.4. If a function is being held, of the 140 people attending it can be expected that 40 people will be staying on the site (the practical maximum capacity) and then remaining 100 people will travel from off-site locations. When travelling to events such as this, people typically car-share to a greater extent and surveys have shown 3.3 people per car. Hence having 100 people travel from off-site would indicate 30 vehicle movements would arise.

6.1.5. For the day-to-day operation of the restaurant and 60 diners, if an allowance of made for half of the people staying on the site to use the restaurant, then this would equate to 23 diners already within the site plus 37 drivers travelling from off-site. With a rate of 0.5 trips per seat, this would equate to 12 vehicle movements.

6.1.6. It can be anticipated that the spa will be used by those staying on-site, and in fact would be a reason why guests would choose this location over others. As such, a proportion of guests will already be within the site and so would not generate any traffic. However some customers will travel to the site from further afield. Allowing for 50% of spa users to travel from off-site locations, this could generate 4 vehicle movements per hour.

6.1.7. If the spa is closed when there is a function being held then there would be no trip generation from this activity. If the spa is open when there's a function being held, then in practice it can be expected that the spa will be most heavily used by those that are attending the function, with less opportunity for it to be used by people from off-site. Conservatively then, the traffic generation would remain at 4 vehicle movements per hour.

6.1.8. Overall then, the greatest traffic generation will arise when a function is being held, when the site would generate 34 vehicle movements in the busiest hour. For the reasons set out above, it is considered that this value is conservatively high.

6.1.9. While this value has been taken forwards for assessment, it is also of note that the most likely busiest hour will be in the morning, when guests leave the cabins (assuming all cabins were occupied and all guests check out) and the spa is operating. At that time, the site would generate 17 vehicle movements.

6.1.10. When the daily traffic generation is considered, it is again the scenario where a function is being held that is likely to generate the greatest volumes. In that case, the cabins would generate approximately 13 vehicle movements as guests arrive, and those staying off-site would generate 30 vehicles arriving before the function and 30 vehicles departing once the function ends.

6.1.11. The daily traffic generation of the spa depends on the times it is open, and the proportion of people using it that are already within the site. Allowing for 10 off-site guests to use it, plus staff travel, this equates to 22 vehicle movements per day.

6.1.12. It is also possible that the function would need to be set up by specialist professionals. The traffic generation would vary according to the nature of function, but an allowance has been made for 4 additional vehicle movements.

6.1.13. Overall then, the maximum traffic generation of the site would be 99 vehicles per day. It should be noted that a function will not be held every day, and when they are held, they will not all be attended by the maximum number of people. This therefore means that on average, the daily traffic generation of the site will be lower than 99 vehicles.

6.2. Trip Distribution

6.2.1. The distribution of these vehicles will depend on the location of guest staying elsewhere. However as the largest settlement in the immediate area is at Punakaiki, it is likely that all movements would be to and from this direction.

7. Effects on the Transportation Networks

7.1. Roading Network Capacity

7.1.1. The addition of up to 17 vehicle movements, and at most 34 vehicle movements to the state highway network will have an imperceptible effect on efficiency. Even the higher value equates to one additional vehicle movement every 2 minutes, which is insufficient to materially alter the level of service provided.

7.1.2. Similarly, the site access will continue to operate under free-flow conditions.

7.1.3. Accordingly, it is not considered that adverse capacity-related issues will arise on the roading network due to the operation of the site.

7.2. Non-Car Modes of Travel

7.2.1. It is highly unlikely that the proposed activities will generate significant volumes of walking and cycling in the area, and therefore it is not considered that any additional infrastructure is required to support pedestrian or cyclists.

7.2.2. The nature and scale of development is not sufficient that a new public transport service is justified.

7.3. Road Safety

7.3.1. The crash history in the vicinity of the site does not indicate that there are any particular features or factors that would be affected by the proposed development. All crashes occurred in different locations and under different circumstances.

7.3.2. The site access will be upgraded from a Diagram C layout (as per the NZTA Planning Policy Manual) to Diagram D. This is discussed in more detail below.

7.3.3. At the same time, the opportunity will be taken to remove landscaping (either within the legal highway or within the site) to improve the sightline available. The specific area where this will be carried out will be based on a more detailed assessment in future (both of the topography and the vehicle speeds), but at this stage it is not expected that there are any reasons why sight distances that are appropriate for the prevailing operating speed of the highway could not be achieved.

7.4. Additional Matters

Driveway Gradient

7.4.1. The draft Te Tai o Poutini Plan sets out that the maximum gradient for a driveway or right-of-way is 1 in 5. The drawings show the following gradients:

- 21.8% (1 in 4.6) for the first 30m or so;
- 23.2% (1 in 4.3) for a further 40m; and
- 17.0% (1 in 5.9) for most of the remaining length.

7.4.2. Thus the first 70m of the access is steeper than expected.

7.4.3. The current change of level equates to 13.05m, and so revising the gradient to achieve a maximum of 1 in 5 would mean that 1.5m of fill was required at the 'downhill' end of this steeper section. However the next section of the existing access is 17.0%, and this therefore could be steepened to 1 in 5. In other words, there is an engineering solution whereby the initial steeper section of the access is flattened, and the flatter section is steepened, such that the driveway overall provides the expected 1 in 5 maximum gradient.

7.4.4. The drawings show that the accessway has cut or batter slopes on either side over much of its length, and so it is likely that retaining structures would be needed in order to accommodate the earthworks to address the gradients. There are no known reasons at this time which mean such structures could not be constructed.

7.4.5. The drawings also show that the driveway is 5.5m wide over its whole length. This would mean that vehicles will need to cross the centre of the driveway to traverse the curves in the horizontal alignment, and this may present a road safety hazard for oncoming vehicles. This can be resolved through implementing localised widening of up to 1m at the curves, or alternatively, short sections of the driveway could be designated as single lane sections only with drivers giving way to any vehicle travelling towards them (this is a potential solution due to the light traffic flows which mean the scenario of one vehicle meeting another will occur only infrequently).

7.4.6. Overall then, it is considered that there are engineering solutions that mean the driveway can be upgraded / improved to achieve compliance with the relevant guides and standards.

Vehicle Crossing Layout

7.4.7. The vehicle crossing connects onto a state highway, and it is therefore appropriate that it is constructed in a way which meets the provisions of the NZTA Planning Policy Manual. Accesses onto the highway are based on three thresholds:

- Whether there are more or less than 30 vehicle movements per day on the access (such as 15 vehicles entering and 15 vehicles exiting);
- Whether there are more or less than 30 vehicle movements per day on the access (such as 15 vehicles entering and 15 vehicles exiting);
- Whether there is more or less than one long, heavy or slow-moving vehicle movement on the access per week (that is, one truck entering and one truck exiting each fortnight).

7.4.8. The traffic volume on the highway itself is also taken into account.

7.4.9. In this case, the volume on the highway is (at most) 1,300 vehicles per day, and it is understood that activities will not generate more than one long, heavy or slow-moving vehicle movement on the access per week. As set out above, the site will generate at most 99 vehicle movements per day using a 'worst case' traffic generation that allows for a large function being held (and for clarity, this will not occur often, meaning that the average daily traffic generation will be lower than this).

7.4.10. Applying the provision of Table App5B/4 of the Planning Policy Manual shows that for these parameters, a vehicle crossing to Diagram D is appropriate, as shown below:

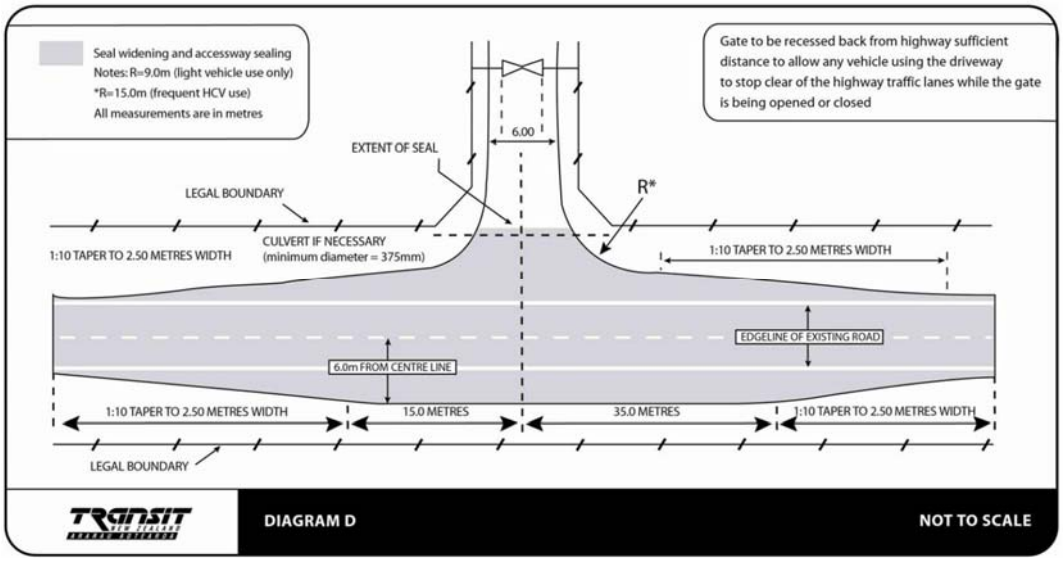

Figure 3: Diagram D Layout

7.4.11. The drawings provide show that Diagram D is proposed to be constructed at the site vehicle crossing.

8. District Plan Matters

8.1. Introduction

8.1.1. The District Plan sets out a number of transportation-related Rules with which any development is expected to comply. An assessment of the proposal against these has been undertaken and the results are summarised below.

8.2. Section 7.4: Access

8.2.1. Under Rule 7.4.1.1. The minimum sight distances from an access for a 100km/h highway are expected to be 250m, with accesses being at least 200m from other accesses and 200m from intersections.

8.2.2. The matter of sight distance is discussed above but in short, the opportunity will be taken to improve sight distances at the access such that they are appropriate for the prevailing speeds. The alignment of the highway means that these are unlikely to be 100km/h, but rather, will be nearer to 70km/h. There are no reasons why a sight distance that reflects the operating speeds of the highway could not be achieved.

8.2.3. There is another access located around 40m south of the site access. However both are existing, and in practice represent the only viable manner in which access to the lots could be achieved. In respect of Assessment Matters, it is considered unlikely that any driver confusion would arise from the two accesses (and there is no evidence in the crash records that confusion has arisen).

8.3. Section 7.5: Parking

8.3.1. In respect of car parking, the site is large and there are no reasons why the appropriate number and size of car parking spaces could not be achieved.

9. Conclusions

9.1. This report has identified, evaluated and assessed the various transportation matters of a proposed visitor accommodation complex at Te Miko, north of Punakaiki.

9.2. Overall it is considered that the traffic generated by the proposal can be accommodated on the adjacent roading network without capacity or efficiency issues arising. Even if the worst case scenario is considered of the highest traffic generation of the site and the peak hours on the highway coinciding, the total traffic volumes remain low. The site access will continue to operate under 'free flow' conditions.

9.3. The crash history in the vicinity of the site does not indicate that there would be any adverse safety effects from the proposal.

9.4. The driveway to the site does not currently meet relevant guides/standards for gradients but this can be addressed through an improvement scheme. Localised widening at the curves on the driveway may also be required. It appears that these can all be achieved within the land available.

9.5. The site access intersection with the highway will also be improved to an NZTA Diagram D layout, in view of the additional traffic movements that the development will generate. This is aligned with the NZTA Planning Policy Manual for the traffic volumes on the access and on the highway. Sightlines at the access will be improved through the removal of vegetation.

9.6. The site access is not separated by 200m from any other access as the District Plan (and Planning Policy Manual) expect, as there is another driveway approximately 40m away. However both are existing and it is considered unlikely that any driver confusion would arise from the two accesses (and there is no evidence in the crash records that confusion has previously arisen).

9.7. Overall, and subject to the preceding comments, the proposed development can be supported from a traffic and transportation perspective.

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