

# TECHNICAL MEMO

Project	362 Jones Road Drury
Subject	Section 92 Request for Information: BUN60440759
From:	Leo Hills
Date	24 November 2025

## 1 INTRODUCTION

Auckland Transport have provided additional comments to the original s92 responses regarding a number of items. We respond to each item as follows (noting we have only responded to the outstanding items).

## 2 ITEM 4(A) TRAFFIC GENERATION

- i) *No access should be allowed from any other road. A condition should be provided to ensure Hunua Rd is the only road to be used (if the consent is approved). In our view the site visit has confirmed that other roads such as Ponga Road and Jones Road are unsuitable and not safe for truck and trailers to use:*

### Commute response:

We agree. To be completely clear, NO road other than Hunua Road will be used for access and ALL trucks will enter the site from the west ie left in / right out.

- iv) *During the off-peak season, what are the estimated daily truck trips being made?  
The applicant has stated that 192 truck trips will occur daily for 6-7 months of the year being 182 days (exclusive of Sundays). If 192 trips per day is occurring for more than 2/3 of year than how can the average be so low.  
The average of 52 trips per day cannot be correct if 192 trips are occurring for 7 months of the year. The high number of trips over such a long period pushes the overall average well above 52. If 192 truck trips occur daily for 182 days, and there are 0 trips on the remaining 131 days, then the average number of trips per day over the year would be approximately 112.04 trips per day. This is more than double the claimed annual average of 52 trips per day.  
  
Please provide the full breakdown of the trip generation calculations. If we are to consider the annual average of trips for the PIA then we need to understand this more.*

### Commute response

In regards to the above:

- The average trucks over the 10 year period is approximately 27 trucks per day or 2-3 trucks per hour. This further equates to 54 truck movements per day (in and out) or an average of 4-6 truck movements per hour)
- This is calculated using the assumptions as detailed in Section 4.1 of the Traffic Report

- The “peak” movements will indeed be 192 truck trips / movement per day As per the traffic Report this is to allow the applicant some flexibility to accommodate for seasonal fluctuations and thereby allow for up to 96 truckloads a day. This threshold would equate to 20 trucks an hour (40 truck movements an hour).
- This flexibility will **NOT** occur for the full 6-7 months per year (typical earthworks season) just short periods within the 6-7 months as demand requires.

### 3 ITEM 4(B): POTENTIAL WIDENING

AT would like to understand the extent to which the pinch points on Hunua could be widened slightly. Because these are the most critical points, we need to understand if widening is physically possible, and would like some further evidence to support as to why it couldn't be done, irrespective of cost.

Suggest this could be slight shoulder widening around the bends where required. If this possible, paired with sightlines improvements, could help reduce the adverse safety effects.

#### Commute response

In regards to the above:

- As per the Traffic Report and s92 response, there are three “pinch” areas
- The points A and B (below) and the eastern section of point C (now labelled as point D below) are considered to be physically possible to widen relatively easily. The remainder of point C is however extremely difficult due to a significant drop-off into the river on one side and a large rock cliff face on the other. This is also the area currently restricted to one-way due to slip in the rock face.

Figure 3-1: Segments of Hunua Road which require widening



### 4 ITEM 4(C): BUS TRACKING

Appendix A only includes tracking for:

- Scarbro truck vs another Scarbro truck
- Scarbro truck vs fire truck
- Scarbro truck vs ambulance

There is no specific tracking plan for Scarbro truck vs school bus at the conflict points

### Commute response

In regards to the above:

- The tracking has been updated based on revised aerial photo using drone together with a topo survey (LiDAR UAV/mobile laser scanner technology) of the road through the gorge
- This survey has provided much more accurate information of the key areas
- Updated tracking has been provided for all four options:
  - Scarbro truck vs another Scarbro truck
  - Scarbro truck vs fire truck
  - Scarbro truck vs ambulance
  - Scarbro truck vs school bus
- The plans also show the full widening required in the key areas to accommodate Scarbro truck vs ambulance and Scarbro truck vs another Scarbro truck.
- Given the detail of these areas, these files are large and have been provided in separate links.

## 5 ITEM 4(D)

*AT are particular concerned with the increase in safety risk of school children in this scenario. The applicant should suggest mitigation measures to reduce any adverse safety effects such as (but not limited to):*

- *Mark and signpost existing informal bus stops with clear signage.*
- *Warning signs for "School Bus Stop Ahead" and "Children Crossing" for truck drivers to see.*
- *Truck scheduling to avoid peak school transport times*
- *Provide a TMP that coordinates with local schools and bus operators to understand exact stop locations and timing.*

### Commute response

In regard to the above:

- The rural nature of school bus stops means the stops can change exact location (depending of which houses / areas house school children).
- It is considered impractical to avoid trucks travelling in the area at peak school transport times and would lead to trucks unnecessarily stopping on the road waiting for school periods to finish.
- These areas are not typically in the gorge itself.
- As noted in the traffic report / s92, Hunua Road already carry large number of heavy vehicles. Even outside the site entrance (east of the gorge) the 2024 traffic survey recorded a Heavy Commercial Vehicle (HCV) volume of approximately 27.3% of the 5-day volume of 1,921 vehicles per day (524 heavy vehicles per day). As such trucks travelling in the area with school bus / children is common. The traffic count recording is included with this response.
- The proposal adds an average of 54 truck movement per day. This is an increase of 2.8% of total volume and 10% of total heavy vehicles. As such the increase is minimal in regards to the overall existing environment.
- We do however agree that the inclusion of W16-6.1 "school bus stop route" signs would be beneficial for truck / school children safety



## 6 ITEM 4(G) NARROW SECTIONS

*Satisfied with the applicant's response.*

*We do not agree with the notion that all that is needed to ensure safety on curves where heavy vehicles need to track across into the opposing traffic lane is for there to be sufficient sight lines between drivers travelling in opposite directions for one or both to come to a stop before a crash occurs. I think it is unreasonable to assume that drivers (all drivers, but particularly those who are not associated with the proposed fill site) will be alert to the possibility that there may be a heavy vehicle crossing into their lane from the other direction and be ready to suddenly break to avoid a collision or take other evasive action.*

*While good sight lines between drivers coming from opposite directions will help mitigate the potential road safety effects, this is not something which is sufficient by itself, the residual road safety effects even with mitigation in the form of improved sight lines are still significant. To ensure safety vehicles should be able to stay on their side of the centre line, and the applicant's assessment does not show this.*

*60% of the recorded crashes involving trucks on this section of Hunua Rd were serious injury crashes, it would only take one driver whose reaction time was higher than assumed by the sight distance calculations and did not brake to avoid the approaching truck and there could be a serious injury (or fatal) crash.*

*There are places on the Commute drawings where trucks are shown tracking over the centre line on a curve with a cliff on the inside. Examples can be found on drawings T1, T2, and T4. In these cases the vehicle on the outside of the curve is shown tracking onto the shoulder to provide space for the vehicle coming the other way to pass into their lane. However, because there is a cliff on the inside of the curve it is not clear how the driver on the outside will know that they need to track onto the shoulder because they cannot see the other vehicle until they are very close. This relies on the driver of the vehicle in the outside lane being ready to make a quick decision to track onto the shoulder as soon as they can see the other vehicle. I do not think it is reasonable to assume this will always happen.*

### Commute response

In regard to the above:

- We agree that there are some corners where the trucks track over into the shoulder. This is due to widening of some corners that appears to have been specifically undertaken to cater for trucks on the outside of corners. It also matches our observations on-site of the existing situation.
- Following a review of the latest topo survey / tracking it is proposed to:
  - Include the signage where truck movements are operating in opposing direction and improving visibility in the areas where tracking is constrained (as constrained in the traffic report).
  - Upgrade / widen two out of the three areas identified as being constrained (Areas A and B) to accommodate two-way movement of Scarbro truck / trailer vs ambulance / van

- Upgrade Area D to also accommodate two-way movement of Scarbro truck / trailer vs ambulance / van
- In terms of Area C, this area is considered difficult to fully upgrade / widen, however it is proposed to widen by approximately 1m on the bank side to improve the overall situation.
- The above measures are considering an improvement in the overall operation of the gorge, which is not only an improvement for proposed Scarbro trucks but also for every existing vehicle in the gorge.
- As noted previously the proposal adds an average of 54 truck movement per day. This is an increase of 2.8% of total volume and 10% of total heavy vehicles over than previously surveyed in 2024. As such the increase is minimal in regard to the overall existing environment.
- Overall, with the mitigation proposed and the small increase in traffic, the overall effect on the gorge is now considered neutral, if not positive.

## 7 ITEM 4(H) : SHOULDER TRACKING

*We note that the drawings show trucks using the shoulders, despite our request that this not be done in the RFI.*

*We consider that trucks need to be able to stay on their side of the centre line for this proposal to not cause road safety effects*

### Commute response

In regard to the above:

- We agree that there are some corners where the trucks track over into the shoulder. This is due to widening of some corners that appears to have been undertaken to cater for trucks on the outside of corners. It also matches our observations on-site of the existing situation of what practically occurs and there are physical mitigation measures proposed by Scarbro together with Scarbro fleet management measures proposed to mitigate this.

## 8 ITEM 4(J) PIA

*“For the 5-day ADT, the HCV volumes were recorded as 27.3% or 524 vehicles.*

*The activity is operating for 7 hours on a Saturday and consider it relevant to consider 6-day ADT for this activity. As such we would like to understand what the HCV volumes are for the surveyed 6-day ADT. This will help recalibrate the HCV volumes survey and if this triggers for a PIA.*

*ATs Principal Engineer for Pavements & Surfacing has advised that for this road if the annual total of HCVs is less than 10%, then a PIA will not be required.*

*However, if the proposed truck movements exceed more than 5% of the existing HCV volume on a daily basis (ADT) then PIA needs to be undertaken.”.*

### Commute response

In regard to the above:

- We have attached the independent full traffic survey

## 9 ITEM 4(J) PIA

*Please confirm the what the HCV volumes are for the surveyed 6-day ADT*

### Commute response

In regard to the above:

- We have attached the full traffic survey.
- The percentage of HCV on each day is as follows:
  - Monday 25.7%
  - Tuesday 28.2%
  - Wednesday 26.9%
  - Thursday 28.0%
  - Friday 27.9%
  - Saturday 20.4%
  - Sunday 18.5%
  - 5 Day 27.3%
  - 7 Day 25.4%
  - 6 day 26.1%

## 10 ITEM 4(J) PIA

*30m is not considered appropriate to mitigate any damage done by the Applicant directly outside of the site. To ensure that any adverse effects to the pavement structure is appropriately mitigated, the applicant is requested to undertake a pavement condition survey on Hunua Road 500m west from the proposed crossing location and be held accountable to repairs if sought. This is because heavy trucks can start braking up to 500m before the point that they need to be slow enough to enter the site. Truck braking contributes significantly to pavement damage.*

*This would be additional to any areas identified as needing repairs if a PIA is required to identify this.*

### Commute response

In regard to the above:

- It is unclear where the 500m distance originates from
- The 30m relates to the truck turning which is considered most appropriate in terms of pavement damage
- The trucks will be entering the site (left turn) at approximately 10-20km/hr and approaching the entrance at an estimated 80km/hr
- From Austroads the braking or a reduction from initial speed  $V_1$  to a lower speed  $V_2$  under the same constant deceleration  $d$ , the braking distance is obtained by difference:

$$S_{brake} = \frac{V_1^2 - V_2^2}{254 \times (d + 0.01 \times a)}$$

From AGRD03-1 Table 5.3: *Design domain for coefficient of deceleration* the coefficient of deceleration for trucks on dry, sealed roads is provided as  $d = 0.29$ . Accordingly, for  $V_1 = 80$ ;  $V_2 = 15$ ;  $d = 0.29$ ;  $a = 0$  (**minimal grade**), the distance travelled by a heavy vehicle while braking has been calculated as follows:

$$S_{brake} = \frac{80^2 - 15^2}{254 \times (0.29 + 0.01 \times 0)} = 83.83 \approx \mathbf{84\ m}$$

As such a more appropriate distance is considered to be 100m

## 11 ITEM 4(M) SAFETY

1. *There is a clear pattern of loss of control type crashes in the crash data, while this type of crash is often a run-off-road type where with a single vehicle involved (for example a vehicle hitting a road safety barrier or some other roadside object), the same things which increase the risk of loss-of-control type crashes also increase the risk of head-on type crashes, and if this were to happen between a truck and a light vehicle (car, van, etc) then the occupants of the light vehicle are at high risk of being seriously injured or killed.*
2. *In regard to the statement that "While there have been a number of loss of control crashes on Hunua Road, these crashes are scattered along the corridor and are not entirely unexpected on high-speed rural roads." I do not accept the inference that the loss-of-control crashes in the crash data for Hunua Road is somehow typical for a rural road. The number of loss-of-control crashes on Hunua Road is very high given the length of road investigated and traffic volumes.*
3. *While only 5 of the 39 crashes involved trucks and I note the applicant's comment that they have been involved less crashes proportionately given their number than other vehicle types, I also note that the crashes involving trucks were much more likely to result in serious injuries. 60%(3 of 5) crashes involving trucks were serious injury. Of the 5 recorded serious injury crashes, 3 (60%) involved trucks. 100% (3 of 3) crashes involving both a truck and a light vehicle were serious injury.*
4. *In regard to the speed limit reduction in June 2022. It has been more than three years since this reduction occurred and loss-of-control crashes are still occurring. If the applicant wants to make a claim that this has eliminated the issue or reduced it to the extent that it is not longer material to the proposal then they should provide more evidence.*

*AT would like the applicant to provide more analysis of the locations of the loss-of-control crashes. We want to see if there are any particular curves or other locations where improvements to that part of the road could be used as mitigation the proposal, rather than asking the applicant to upgrade/widen the whole road.*

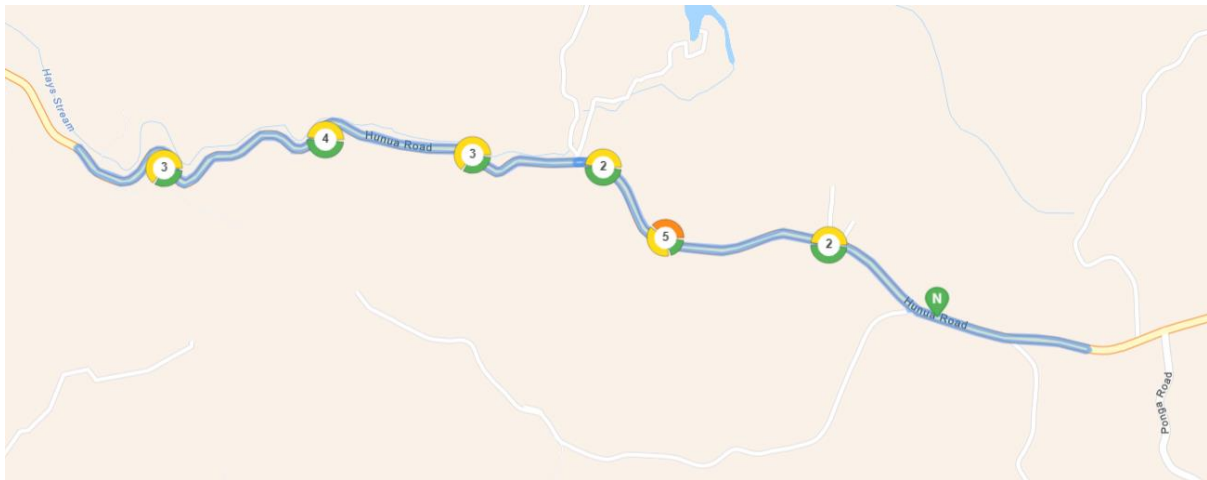
### Commute response

In regard to the above:

- A more detailed assessment has been assessment of the surrounding area's road safety record has been undertaken using the NZTA's CAS database for only loss of control crashes in the gorge itself (from the Quarry entrance to the site entrance). Crash records for the five year period 2020 - 2024 including all available records for 2025. The results show:
  - A total of 20 loss of control crashes were recorded in the above study area, comprising of 8 non-injury crashes, 10 minor-injury crashes, and 2 serious-injury crashes.
  - It should be noted that 8 of these loss of control crashes (40%) occurred at night when the fill site will not be operating.
  - Figure 11-1 below shows the approximate location of the above crashes within the study area. In general, the loss of control crashes are quite spread out along the corridor.
  - Areas A and C/D in Figure 3-1 previous had three loss of control crashes each, while Area B did not have any.



**Figure 11-1: Locations of Crashes**



- Following a review of the latest topo survey / tracking it is proposed to:
  - Include the signage where truck movements are operating in opposing direction and improving visibility in the areas where tracking is constrained (as constrained in the traffic report).
  - Upgrade / widen two out of the three areas identified as being constrained (Areas A and B) to accommodate two-way movement of Scarbro truck / trailer vs ambulance / van
  - Upgrade Area D to also accommodate two-way movement of Scarbro truck / trailer vs ambulance / van
  - In terms of Area C, this area is considered difficult to fully upgrade / widen however it is proposed to widen by approximately 1m on the bank side to improve the overall situation.
- The above measures are considering an improvement in the overall operation of the gorge, which is not only an improvement for proposed Scarbro trucks but also for every existing vehicle in the gorge.

**Attachment: Vehicle tracking / traffic count (as separate file due to size)**