Hayman Street Road Stopping Assessment

Prepared for	Susannah Ratahi, Timaru District Council
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Prepared by	Evan Stranks, Senior Transportation Engineer
Reviewed by	Dave Smith, Technical Director Transport Planning

1. Introduction

Timaru District Council are considering a road stopping request on Hayman Street between Hayes Street and Fraser Street in the Timaru Port area. Abley have been commissioned to verify the impact this is likely to have on traffic in the surrounding area.

2. Traffic counts

Council obtained traffic counts for the following seven locations:

- Hayman Street between Fraser Street and Hayes Street
- Hayes Street between Hayman Street and Ritchie Street
- Fraser Street between Hayman Street and Ritchie Street
- Hayes St between Heaton Street and Stuart Street
- Port Loop Road between railway crossing and Marine Parade
- Hayman Street between Dawson and Fraser Street
- Stuart Street between Fraser Street and Hayes Street

These locations are illustrated in Figure 1. Counts were collected for the seven-day period between Tuesday 14 December and Tuesday 21 December 2021 at five of the sites. For two locations, at Hayes Street (between Heaton Street and Stuart Street) and Fraser Street (between Hayman Street and Ritchie Street), data is only available from midday on Friday 17 December until the morning of Tuesday 21 December. Count data was provided in one-hour bins and is two-way (i.e., no separation by direction is possible).

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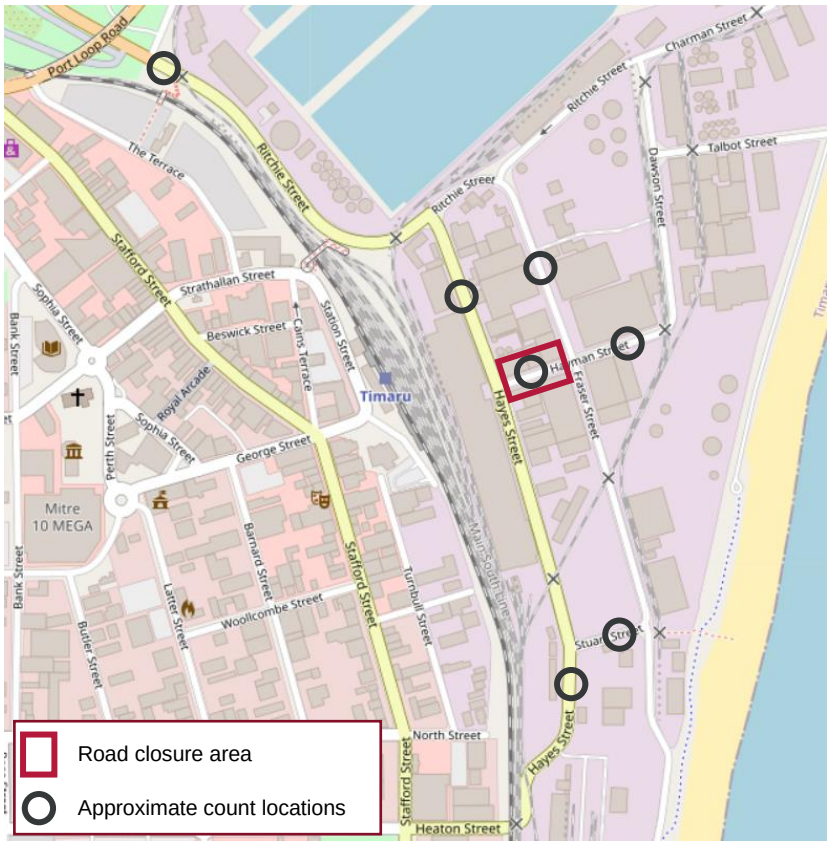

Figure 1 Map of traffic count locations (source: OpenStreetMap)

3. Analysis

As the study area is a working port, traffic volumes do not always conform to typical daily patterns. Investigation of the data showed that across the count locations, the peak volumes were varyingly recorded in the traditional AM peak, interpeak and PM peak periods. Furthermore, the daily volumes do not show typical variations from one weekday to the next.

In addition to two of the counters missing data for several days, it was found that the timing of the count commencement and completion was imperfect, such that up to several hours of data for late Tuesday morning is incomplete for all counters.

Based on these factors, the decision was taken to work with five-day average weekday data (or as much as is available in the cases of missing data).

Analysis shows that traffic on Hayman Street between Fraser Street and Hayes Street is low, peaking at a five-day average of 36 vehicles in the 11am-12pm period. This is the lowest level of traffic for any of the roads that were counted and indicates that the stopping up of Hayman Street should not result in a significant number of vehicles rerouting. Of the roads for which traffic counts were collected, the highest observed traffic was Port Loop Road. The five-day average peak hour from this road was 287 vehicles in the 2pm-3pm period.

Assuming that as a worst-case scenario these volumes were to coincide in the same hour, and that the stopping of Hayman Street resulted in the addition of all 36 vehicles to the 287 on Port Loop Road, this would only equate to 323 vehicles (two-way) in a single peak hour. The traffic count data indicates that approximately 80% of traffic in the Port area is passenger cars, with the remaining 20% being heavy

vehicles. Assuming a conservative PCU factor of 2.5 for the heavy vehicle, the theoretical maximum of 323 vehicles in the peak hour equates to 420 PCU/h. The *Austroads Guide to Traffic Management Part 3: Transport Studies and Analysis Methods Edition 4.0* indicates that the one-way mid-block capacity of a single lane of an undivided road is a minimum of 900 passenger car units (PCU) per hour. Therefore, the maximum two-way flow on Port Loop Road would still be well below the capacity of a single (one-way) lane.

It is noted that in the Port area there may be occasional disruption from heavy vehicle manoeuvres and from the railway crossings on Port Loop Road and Hayes Street. However, the likely peak flows on these roads are so far below their capacities that these issues are unlikely to be consequential.

4. Conclusion

The traffic count data indicates that if Hayman Street is stopped as proposed, relatively few vehicles will be affected. Flows on neighbouring roads will increase marginally, but all roads will be well within their capacity. There is therefore no reason why the stopping of Hayman Street cannot go ahead from a network efficiency perspective.