



Assessment
Traffic Volume Environmental Capacity
Proposed Child Care Centre
110-112 Mount Vernon Road, Mount Vernon

October 2020

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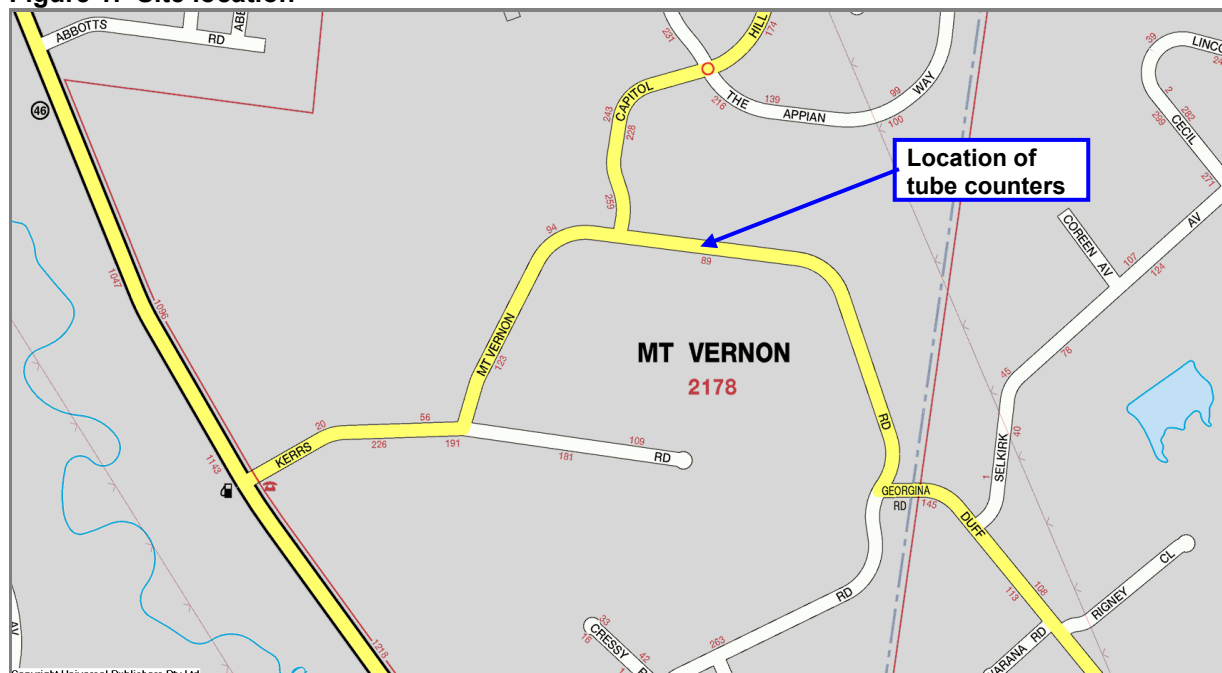
1 INTRODUCTION

Penrith City Council's Traffic Engineer requested in his email dated 14 October 2020 that:

"I'm simply requesting mid-block traffic counts (e.g. via tubes) be conducted fronting the development to determine the current peak time volumes. This should be summed with the trip generation resulting from the proposed centre to predict future traffic demand on Mt Vernon Rd and assess whether the roadway will remain within its environmental capacity post-development. These values should be justified with reference to relevant best practice e.g. RTA Guide to Traffic Generating Developments and/or Austroads."

On 16 October 2020, gtk consulting engaged Austraffic Pty Ltd to undertake speed, volume and classification surveys using tube counters on Mount Vernon Road, Mount Vernon outside the subject site, i.e. 110-112 Mount Vernon Road.

Figure 1: Site location



Source: NSW Property Information Services 2020

2 EXISTING TRAFFIC VOLUMES

In October 2020, traffic volume surveys were undertaken on Mount Vernon Road by an independent, experienced traffic survey company, Austraffic Pty Ltd. The surveys were conducted between midnight Wednesday 21 October and midnight Tuesday 27 October, 2020 outside 110-112 Mount Vernon Road.

The surveys (full survey data provided via email to Council's Mr Isaac Mann) revealed the following peak hour volumes (7 day average) on Mount Vernon Road:

- 114 in the AM peak (8.00am-9.00am) and 128 in the PM peak (3.00pm-4.00pm).

The RMS publication *Guide to Traffic Generating Developments 2002* provides the peak activity time for long day care centres as 7.00am to 9.00am and 4.00pm to 6.00pm. The maximum peak hour traffic volume for the existing traffic on Mount Vernon Road is:

- 114 in the AM (8.00am-9.00am) and 104 in the PM peak (4.00pm-5.00pm).

3 IMPACT ON ENVIRONMENTAL CAPACITY

Mount Vernon Road is a local road under the Penrith City Council Road Hierarchy Plan. RMS has published guidelines which provide advice for the assessment of environmental capacity for streets with direct access to residential properties (RMS *Guide to Traffic Generating Development* 2002). These guidelines were developed following considerable research and have taken into account residents' attitudes to traffic in their streets. The guidelines are summarised in **Table 1**:

Table 1: RMS recommended environmental capacity performance standards for residential streets, i.e. local and collector roads

Road Class	Road Type	Maximum Speed (km/h)	Maximum Peak Hour Volume (veh/h)
Local	Access way	25	100
Local	Street	40	200 environmental goal 300 environmental maximum
Collector	Street	50	300 environmental goal 500 environmental maximum

Source: RMS *Guide to Traffic Generating Development* 2002

Two sets of performance standards have been recommended for the maximum peak hour volume in **Table 1**. For example, the recommended desirable number of vehicles per hour (vph) for a local street is 200 vph and the maximum is 300 vph. However, it is acknowledged that some streets carry volumes greater than the recommended maximum due to their location and connectivity within the road network.

The maximum peak hour vehicle trips (phvt) for the proposed child care centre are:

$$\begin{array}{rcl}
 \text{Child care centre} & 96 \text{ children} \times 0.8 & = & \mathbf{77 \text{ phvt}} \text{ in the AM peak} \\
 & 96 \text{ children} \times 0.7 & = & \mathbf{68 \text{ phvt}} \text{ in the PM peak}
 \end{array}$$

The centre will provide a minibus which has a capacity of 22 children (plus 1 driver and 1 adult supervisor) and undertake 1 trip in the AM and PM peak periods, thereby reducing the peak hour vehicle trips to approximately **59** in the AM peak and **52** in the PM peak period.

Existing and post development traffic on Mount Vernon Road, at the peak traffic generating times of the proposed child care centre, is compared to the environmental capacity goal in **Table 2**:

Table 2: Environmental capacity Mount Vernon Road compared with existing and post development volumes

Location	Existing Volumes		Post Development		Environmental Capacity
	8.00am - 9.00am	4.00pm - 5.00pm	8.00am - 9.00am	4.00pm - 5.00pm	
Mount Vernon Rd	114	104	173	156	200

Source: gtk consulting 2015

During times of peak traffic generation of the proposed child care centre, Mount Vernon Road will operate within the recommended desirable environmental capacity goal.

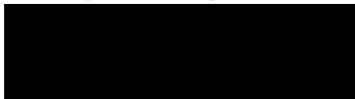
4 CONCLUSION

The proposal to establish a child care centre for 96 children at 110-112 Mount Vernon Road, Mount Vernon has been assessed to determine the impact of the additional traffic generated by the development on the environmental capacity and concludes that:

- During times of peak traffic generation of the proposed child care centre, Mount Vernon Road will operate within the desirable environmental capacity goal.
- The traffic generated by the proposed development is moderate and will not present any unsatisfactory traffic safety or capacity issues on the existing or future road network.

This additional assessment, requested by Council's Traffic Engineer, concludes that the combined traffic generated by the proposed child care centre and the existing traffic volume on Mount Vernon Road, Mount Vernon is within the desirable environmental capacity goal set by the RMS in its publication *Guide to Traffic Generating Developments 2002*.

Garry Kennedy



Director