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Technical Design Note

Project: PoN 46 Fitzroy Street, Carrington

Subject: Community Response re Denison Street

Date: 13 September 2021

Attention: Belinda Sinclair

Issues have been raised by the local residents regarding the suitability of Denison Street, Carrington to accommodate the additional traffic associated with the proposed development at 46 Fitzroy Street, Carrington (Attachment A).

The following advice is provided in response to this.

Denison Street Road Capacity
In accordance with standard practice, traffic surveys were undertaken at the intersection of Cowper Street and Denison Street to determine traffic demands, including turn volumes, for both Cowper Street and Denison Street. The surveys were undertaken on Tuesday 3rd November and Wednesday 4th November 2020. The local road peak was determined as being 8.15-9.15am and 4.45-5.45pm.

Peak two way flows on Denison Street were surveyed as 105 vehicler per hour (vph) (51 northbound/ 54 southbound) in the AM peak and 62vph (37 northbound/ 25 southbound) in the PM peak.

Based on Austroads Guidelines, peak hour flows represent 8-12% of the daily flows which on Denison Street could be in the order of 840 vehicles per day (vpd).

As an urban road Denison Street operates with a level of service A with less than 200 vehicles per hour (vph) per direction. The additional flows associated with the project will see 65 additional trips in the morning peak hour with 55 southbound. Flows on Denison Street could increase to 170 vph with the peak southbound flows increasing to 109 vph with no change to the level of service. Afternoon flows are less than this and therefore within the LoS A.

The environmental capacity considers the maximum two way peak hour volume of a road. The Environmental Capacity for a local residential road is 200vph desirable with an upper limit of 300 vph. As a collector road the desirable limit is 300vph with an upper limit of 500vph. Two way peak hour flows during the local road peak were 105vph, applying the development two way flows of 65 additional trips will see flows increase to 170 vph. Denison Street, due to its historic operation providing access to various port industries functions as a collector road. The peak hour volume is well within this and is actually less than the desirable limits for a local residential road. It can be seen that the road is not a true residential road, as it provides access to industrial use at its southern end.

During the period 7.15-8.15am flows on Denison Street are in the order of 129 vph (75 southbound) associated with the various businesses along its length. Allowing for the development flows to coincide with this period two way flows could be 194 vph, still within the desirable limits for a local road and well within the capacity of a collector road.

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Applying RMS Guide to Traffic Generating Development rates, the site could generate an additional 611 trips per day (305 inbound, 306 outbound). Whilst daily flows are likely to be split evenly across the two access points, the traffic impact assessment was very conservative and applied all of the daily traffic demands to Denison Street to demonstrate the capacity of the road to accommodate a worse case. This increased daily flows to 1451vpd. Allowing for the upper limit of a local road being 300 vph, acceptable daily flows on Denison Street could be in the order of 3000 vehicle movements per day with adequate capacity to accommodate the development flows.

Flows associated with the Denison Street access are expected to be more in the order of 60% of the development traffic demands. This could see daily flows on Denison Street increase by 367 trips per day to a total of 1207 vehicles per day. Whilst there are no criteria for the impact of daily flows, where peak hour impacts are within the capacity and environmental limits of roads then daily flows are considered acceptable. At 1207, daily flows are well within this.

Parking

The parking proposed for the site is in excess of the DCP requirement to provide for future parking demands to be contained within the site. This, coupled with active travel initiatives outlines in the Green Travel Plan, are to reduce the potential for parking by staff on surroundings streets. Visitor parking is provided within the site off Fitzroy Street.

The objectives of the City of Newcastle On the Street Parking Strategy have also been considered in the development of this project.