

ADDENDUM Transport Assessment**FROM Civil Designer, Technical Services, Orange City Council****DATE 01 October 2024****ON 277 Cargo Road – Gateway Alteration****Introduction**

The amended Planning Proposal provides for the development of a residential subdivision on the Site. The Proposal is seeking to provide for approximately 102 lots and is anticipated to develop of two stages. The concept plan for the site is shown in Figure 1.

Access to Cargo Road

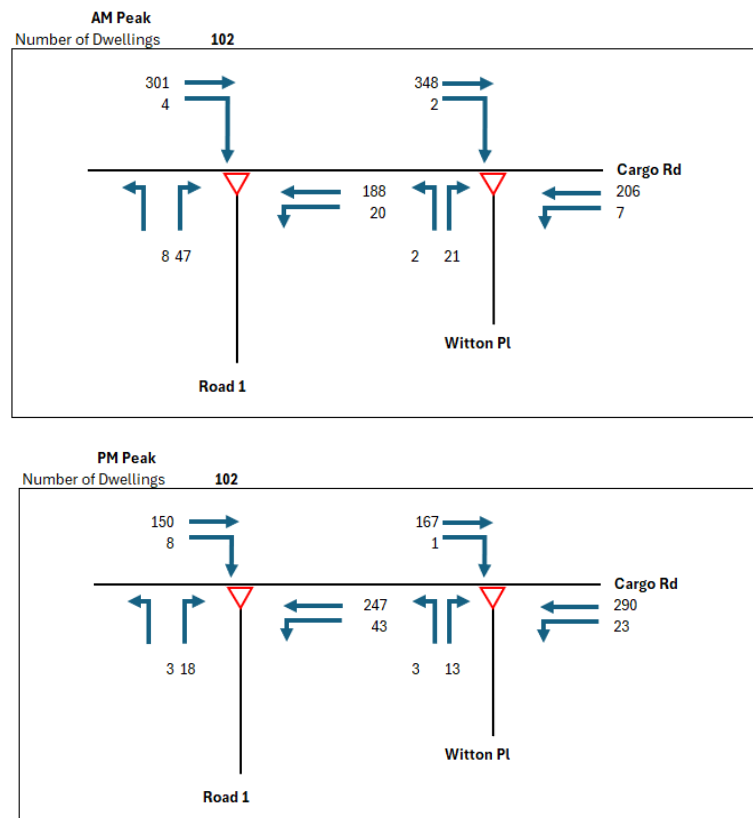
The Proposal continues to create 1 additional access road to Cargo Road. Secondary access has been identified as part of the proposal, however given there is no formal arrangement for creating the access, the Cargo Road access will apportion 100% of the traffic to that intersection for the allotments proposed under Stage 1.

Future Traffic Operations

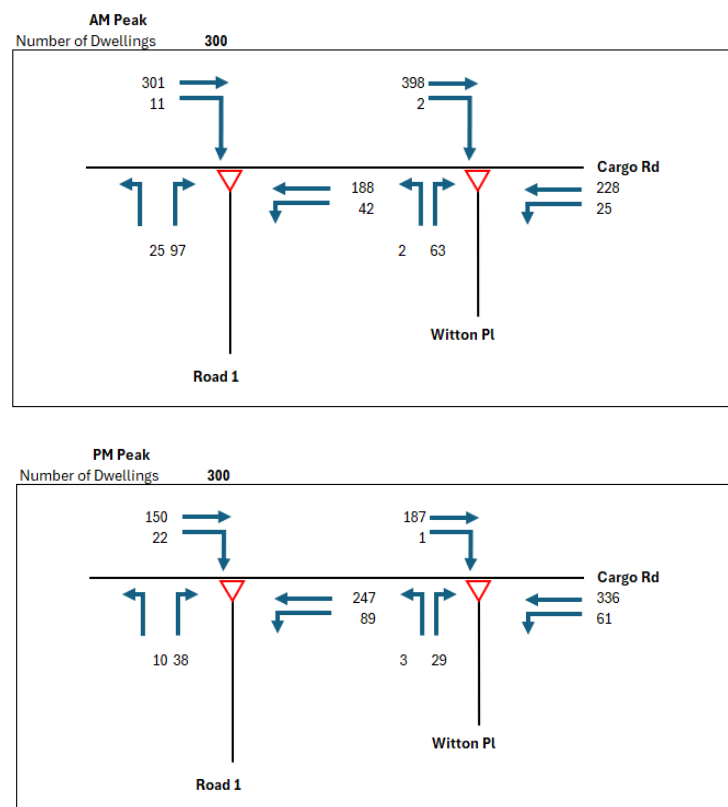
The amended evaluation uses the same traffic generation rates, directional distribution, trip assignments to Cargo Road intersections, and arrival and departure distribution as the previous transport assessment; with 100% of the site volume assigned to Cargo Road/Road 1 intersection for the Candidate Area, as outlined above.

Note: the trip generation is based off Guide to Traffic Generating Developments (RTA, 2002), which has recently been superseded by Guide to Transport Impact Assessments (TfNSW, Sep 2024).

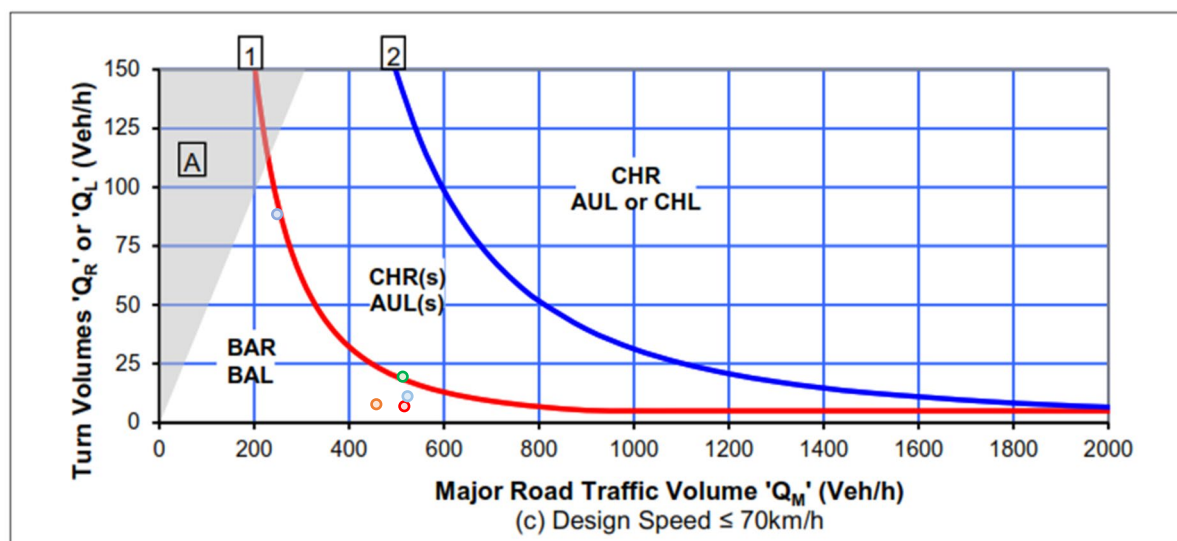
The volumes generated in the AM and PM Peak for the 102 dwellings are as follows-



The volumes for the site generated at 300 dwellings were as follows-



Design Warrant for Cargo Road



Colour	Lot Yield	Peak Period	Turn Type	Volume	Distribution
Red	102	AM Peak	Right Turn	$Q_R = 4$ Veh/h, $Q_M = 509$ Veh/h	(All use Road 1 - 100% of Entering Right Turn Traffic, 100% of Entering Left Turn Traffic)
Orange	102	PM Peak	Right Turn	$Q_R = 8$ Veh/h, $Q_M = 440$ Veh/h	(All use Road 1 - 100% of Entering Right Turn Traffic, 100% of Entering Left Turn Traffic)
Purple	300	AM Peak	Left Turn	$Q_L = 89$ Veh/h, $Q_M = 247$ Veh/h	(Assignment 3 - 100% of Entering Right Turn Traffic, 70% of Entering Left Turn Traffic)
Blue	300	AM Peak	Right Turn	$Q_R = 11$ Veh/h, $Q_M = 531$ Veh/h	(Assignment 3 - 100% of Entering Right Turn Traffic, 70% of Entering Left Turn Traffic)
Green	300	PM Peak	Right Turn	$Q_R = 22$ Veh/h, $Q_M = 486$ Veh/h	(Assignment 3 - 100% of Entering Right Turn Traffic, 70% of Entering Left Turn Traffic)

As shown an increase in yield for the current Planning Proposal to 102 lots still permits the treatment of the intersection of Cargo Road/Road 1 as a BAR/BAL treatment.

When evaluating the candidate area for 300 lots, the intersection is on the threshold for both the left treatment requiring an AUL(s) and the right turning treatment requiring a CHR(s) treatment, this should be further evaluated with any subsequent planning proposals.

Note: Cargo Road does not appear to be fully contained within the road corridor in this location, and further survey would be required to investigate the extent of this issue.

Note: the impacts on the internal road volumes are low and have not been further evaluated further at this time.

Summary

Council's traffic engineers have determined the following requirements based on the amended proposal and have determined:

- A BAR intersection is required with widening for right turn overtaking. An AUL (left turn lane) is appropriate, although not Austroad required.
- For any future proposals that increase the yield above 300 lots a CHR intersection will be required at Cargo Road, regardless of the secondary road as that intersection will accommodate all the right turns into the estate.

Based on the above, the amended Planning Proposal does not have any significant impact on the ability of the intersection to operate at a good Level of Service and the design remains consistent with the prior intersection design. The current assessment volumes show that the intersection should perform successfully as a BAR, and should be reevaluated further with any changes in traffic volumes, as well as for any proposals exceeding 300 lots, where the BAR treatment begins to exceed capacity.

Anton Reisch, Director of arc traffic + transport, has reviewed the addendum above prepared by Orange City Council, and is supportive of the analysis and recommendations of the addendum, noting:

- The warrants for a CHR at the new intersection of Cargo Road & Road 1 would only be met if the Site is developed for 300 dwellings. As outlined in the addendum therefore, in the short term a BAR for the right turn from Cargo Road to Road 1 would be appropriate, with the requirement for a CHR to be determined at a future date.
- While not required by Austroads, a CHL from Cargo Road to Road 1 could reasonably be considered, which would align with the design of the left turn treatment from Cargo Road to Witton Place.

14/10/2024