

Technical Note

DATE 26 January 2015
JOB No. 80507261

PROJECT Plan Change 46
SUBJECT Ballantyne Road Intersection Assessment

FOR INFORMATION OF			
FOR ACTION BY			

THIS NOTE RECORDS:

<input type="checkbox"/> MEETING	<input type="checkbox"/> WITH	<input type="checkbox"/> CLIENT	BETWEEN <u>O Brown</u>
<input type="checkbox"/> PHONECALL	<input type="checkbox"/> ABOUT	<input type="checkbox"/> CONTRACTOR	AND _____
<input type="checkbox"/> THOUGHT/IDEA	<input type="checkbox"/>	<input type="checkbox"/> SUPPLIER	TIME _____
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Detail:

A letter was received by Queenstown Lakes District Council (QLDC) from Bartlett Consulting detailing the Plan Change 46 Ballantyne Road Intersection Assessment.

This Technical Note reviews the Bartlett Consulting letter and identifies any inconsistencies to previous analysis presented by the applicant to QLDC for this intersection.

Bartlett Consulting Letter:

1. Section 2 – Intersection Form:
 - a. Intersection Form – we agree that traffic signals are not an appropriate intersection form at this location.
2. Section 2.1 – T-intersection:
 - a. No details or analysis are provided of the development traffic volumes to justify claim that “*The T-intersection will be capable of accommodating traffic resulting from the Plan Change with current Ballantyne Road traffic*”. However, the traffic report prepared by Abley Transportation Consultants (March 2013) demonstrated via Sidra traffic modelling that a T-intersection had sufficient capacity to cater for existing Ballantyne Road traffic volumes with development of PC46. Therefore, based on the Abley report we agree that a T-intersection can cater for PC46 with existing Ballantyne Road traffic volumes. Note that existing volumes do not include any development of the wider area.
 - b. No analysis has been presented demonstrating future year operation of the T-intersection with development of the wider area to support the claim future traffic flow increases can be accommodated by the proposed T-intersection with inclusion of a short left turn lane. The Abley traffic report demonstrated via Sidra traffic modelling that a T-intersection could not cater for the expected future year traffic volumes, due to delays associated with the right turn out of Road 3, and identified that a roundabout will be required. Based on the Abley report, we confirm that a roundabout is required to cater for future traffic volumes.
3. Section 2.2 - Roundabout:
 - a. Some geometric guidelines for roundabout design are presented with indication that it is likely significant earthworks will be required.
 - b. Stated that “*It is likely that a roundabout intersection will introduce a greater overall delay onto the road network*”. We agree with this in general due to traffic being slowed on all approaches as stated. However, the overall increase of intersection delay is balanced against the reduction in delay for other movements, specifically in this case the right turn out of Road 3.

INITIALS

4. Section 3 – Summary:

- a. No analysis has been presented demonstrating how the proposed T-intersection will cater for future traffic volumes (including Plan Changes 12, 32 and 36). The analysis should detail what has changed within the development since the Abley traffic report that demonstrated a T-intersection will not cater for future traffic volumes.
- b. Justification for the preferred T-intersection states “*The operational difference between a T-intersection and a roundabout is the effect on vehicle delay*”. We agree there is a difference in delay, with roundabout generally having a higher overall intersection delay. However there are other fundamental operational differences including the safety benefits from reduced vehicle speeds, safety benefits from the reduced number of conflict points (and generally less severe conflict angles) and the ability to provide quality crossing facilities for non-motorised users across all roads.
- c. High level comments on the presented concept design are:
 - i. The design does not show proposed non-motorised user provisions, which was one of the recommendations in the letter from Abley Transportation Consultants to QLDC dated 26 August 2013.
 - ii. Two exit lanes might be required on Road 3. This can be addressed during detailed design within the proposed road reserve.
 - iii. The left turn allows vehicles to turn at speed, which is a safety concern, and maybe impede sight distance to vehicles exiting Road 3. This can be addressed during detailed design within the proposed road reserve.

Summary

Based on review of the Bartlett Consulting letter and consideration of previous technical analysis by Abley Transportation Consultants the proposed T-intersection of Road 3 with Ballantyne Road to cater for future traffic volumes cannot be supported by MWH.

The reasons supporting this are:

1. The letter provides no evidence or technical assessment supporting the claim that the proposed T-intersection can cater for future year traffic volumes. Further, it does not identify what has changed in the PC46 application since the detailed assessment by Abley Transportation Consultants, who identified a roundabout was required to cater for future year traffic volumes.
2. Justification for the preferred T-intersection is based solely on delay, and does not consider the other fundamental operational differences to a roundabout intersection. For this intersection, delay to vehicles turning right out of Road 3 was the primary driver for the recommended roundabout.
3. The presented concept design does not show proposed non-motorised user provisions. These need to be included for consideration.

If a T-intersection was to be implemented in the short term, we note changes will be required to the concept design to improve operation and safety. It appears these can be achieved within the proposed road reserve and could be evaluated during detailed design.