

Memo

To: David Shearer
From: Antoni Facey
CC:
Date: 23/9/2026
Re: **Transport Effects for 89 Bushy Beach Road Plan Change**

This memo provides an assessment of the transport effects to support submission 81.1. Submission 81.1 sought that the site at 89 Bushy Beach Road be rezoned from General Rural Zone to a combination of Rural Lifestyle zone and General Residential Zone. The site is currently zoned Rural General in the Operative District Plan.

The site is contiguous with the urban area of Oamaru.

It is understood that the proposed change of zone to General Residential would allow for a development of 26 new Lots as shown in the concept plan.

The concept subdivision design shows up to 7 new dwellings would be served by a single cul-de-sac accessed from Bushy Beach Road and a single dwelling to the south of Bushy Beach Road, 11 dwellings from an extension to Brinkburn Street and 7 from an extension to Bywell Street.

The extensions of Brinkburn Street and Bywell Street will remain in private ownership and will be formed as private accesses with clear signage that the accesses are private.

The level of detail provided in the concept plan is sufficient to assess the transport effects of the proposed zone change.

ASSESSMENT

Background

The current speed limit for each of the roads is 50 km/hr.

Bushy Beach Road is the main vehicle access to the penguin colony.

The Proposed District Plan identifies all of the road as access roads in the roading hierarchy. Bushy Beach Road links to Tyne Street which is a secondary collector road north of Selwyn Street.

Oamaru does not have a public transport system at this time.

Should the zone be changed, the development will be considered a high trip generator with more than 20 potential residential units and will therefore be a restricted discretionary activity.

MobileRoads records show the traffic volume on Bushy Beach Road is 242 vpd while Brinkburn Steet carries 231 vpd.

CAS data/safety

The CAS database was searched for the period 2021 to 2026 inclusive to determine if there are any underlying safety concerns for roads in the vicinity of the site. The area searched is shown below. A single minor injury crash and 2 non injury crashes were reported for the area.

The reported minor injury crash was due to a drunk driver driving too fast with brakes in poor condition losing control and running off the road into a tree. One non injury crash was due to a driver distracted with the air conditioning crossing the centreline into oncoming traffic. The second non injury crash had no details but alcohol was suspected.

The crash record for the area is otherwise good and the reported crash does not indicate any underlying safety problems.



Figure 1: CAS search results

Geometric Design

Waitaki District requires subdivision roads to be constructed in accordance with NZS 4404:2010 “Land Development and Subdivision Infrastructure”. Being a greenfields development, there is no reason that the road dimensions recommended by NZS 4404 for a development of this scale cannot be achieved.

No changes are proposed to the existing public road alignment.

Sight distance from the new intersection should be consistent with the AUSTROADS Design Guides. The AUSTROADS Guide to Road Design Part 4A “Unsignalised and Signalised Intersections” has requirements for sight distance at the intersections.

ASD can be achieved through the road design of the internal roads. The Bushy Beach access is currently formed as a farm access. Drivers exiting the access will be aware of the upcoming intersection so meeting the ASD will be less important than for a through

road. The extensions of Brinkburn Street and Bywell Street will be private roads and will be designed as such to ensure drivers using the accesses will be aware of the cul-de-sac turning heads they are entering or leaving.

A minimum sight distance from the Bushy Beach Road access of about 200 metres can be achieved in both directions. AUSTROADS Guide To Road Design Part 4A Table 3.2 shows a sight distance of 200 metres is equivalent to a road design speed of 85 km/hr. Considering the speed limit is 50 km/hr, it is anticipated that the SISD for the access will be met.

The Brinkburn and Bywell Street accesses are into the cul-de-sac turning heads so are expected to have very low design speeds and SISD is irrelevant in these cases.

Table 3.6 of the AUSTROADS Guide provides minimum gap sight distances for various speeds. Assuming the 85thile speed of approaching vehicles of 60 km/hr on Bushy Beach Road because of the 50 km/hr speed limit, a sight distance of 133 metres would be required to achieve a critical gap acceptance time of 8 seconds which is sufficient to exceed the critical acceptance gaps of between 4 and 5 seconds from Table 3.5 for traffic movements at a Tee intersection.

The Brinkburn and Bywell Street accesses do not require gap sight distances due to their location at the end of the culs-de-sac and the very low traffic volumes.

The minimum sight distance requirements of the AUSTROADS Design Guide can therefore be achieved in the concept design.

Intersection performance

Table 6.1 of AUSTROADS “Guide to Traffic Management” Part 3 2009 is reproduced below. This provides guidance on when an intersection analysis is unnecessary.

Table 6.1: Intersection volumes below which capacity analysis is unnecessary

Type of road	Light cross and turning volumes maximum design hour volumes vehicles per hour (two way)		
Two-lane major road	400	500	650
Cross road	250	200	100
Four-lane major road	1000	1500	2000
Cross road	100	50	25

Traffic generation from the completed development of 26 dwellings will be around 182 vpd. This is based on each residential dwelling generating about 7 trips per day.

Surveys published by the TRIPS database show that a residential development in a peri-urban area such as Brinkburn and Bywell Streets will generate 6.4 trips per day. With 26 potential dwellings, this is approximately 166 trips.

Other data sources support this traffic generation estimation. Surveys from West Melton have been quoted and accepted in hearings with an average weekday traffic volume of 5.85 vehicles per dwelling. The NSW Guide to Transport Impact Assessment suggests a traffic generation of 7.53 trips per dwelling per weekday in low density residential dwellings in Regional NSW.

Based on the supporting data, it is considered that the traffic generation rate used of 7 trips per day per Lot is reasonable for the Bushy Beach Road development. This is considered a conservative estimate for this development.

Peak hour traffic volumes for a road are typically 10% of the daily total traffic volume. With an existing ADT of 242 vpd on Bushy Beach Road, the peak hour traffic volume is around 24 vph. Where Bushy Beach Road and Brinkburn Street meet, the total traffic volume through the intersection will currently be about 473 vpd and with the additional 166 vpd from the development, the total traffic through the intersection will be about 636 vpd or 64 vph in the peak hour or about 1 vehicle per minute.

Based on Table 6.1 from AUSTROADS, this is well below the threshold for further analysis and implies that the intersections are expected to be free flowing with a Level of Service of A.

It is expected that the intersections will operate at an acceptable level of service.

Connectivity

The development will have connections to Brinkburn Street, Bywell Street and Bushy Beach Road. These roads are connected to the main road network through Tyne Street which is a secondary collector and designed for that purpose.

The Waitaki Recreation Strategy does not appear to identify any of the roads in the vicinity as cycle or pedestrian routes.

Footpaths are provided on Bywell Street only to the end of the cul-de-sac. Brinkburn Street does not have a footpath east of Bywell Street. Bushy Beach Road does not have any footpaths. Given the low pedestrian demand expected from the development, it is considered that footpaths are unnecessary on the private roads within the development.

Within the subdivision, footpaths can be provided consistent with NZS 4404:2010 requirements.

NZS 4404:2010 does not require separated cycle facilities for an urban road carrying less than 2000 vpd. Given the anticipated low cycle volumes generated from a 26 Lot residential development, the carriageway should be sufficient for cyclists to use.

It is considered that the development will be appropriately connected to the existing urban development in Oamaru.

Conclusion:

The proposed 26 Lot development at 89 Bushy Beach Road will be connected to the existing road network through a series of private road accesses.

It is considered that no upgrades to the existing road network are required for the development.

Other compliant options may be available during the design stage that could be developed but the proposed concept offers a suitable development for assessment.

It is my opinion that allowing the submission for changing 89 Bushy Beach Road to a combination of General Residential Zone and Rural Lifestyle Zone will have traffic and transportation effects that are no more than minor.



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