

Consent Application RM230535, 332 Queen Street, Richmond

Review of Traffic Effects

30/10/2024

1. Scope of this Review

Affirm NZ Ltd was engaged by Tasman District Council to carry out a review of the traffic matters of a resource consent application of 21 May 2024 by Bekon Media Ltd to install a single sided 24.5m² digital billboard for off-site advertising on a building at 332 Queen Street in Richmond.

A review of traffic effects by Affirm NZ was completed on 19/09/2024 (previous Affirm NZ review) for the billboard application. An amendment to the application was subsequently submitted on behalf of Bekon Media on 7/10/2024, and this report has been prepared to review traffic matters of the amended application. This review replaces the previous Affirm NZ review, but should be read alongside that earlier review.

Given the timing of the receipt of the amendments to the application, it was not possible to complete this further review to allow for consideration in the Sec42A Report prior to issue of that report on 11th October. Instead, this review will be considered by the planner in preparation of an Addendum to the Sec42A Report.

2. Statement of Qualifications and Experience

My name is Ari Joseph Albert Fon. I am a Director of Affirm NZ Ltd, a private engineering consultancy. I hold a Bachelor's Degree in Civil Engineering with honours from Canterbury University. I am a Chartered Member of Engineering New Zealand (CMEng), a member of the Transportation Group of Engineering New Zealand and a member of the Safety Practitioners subgroup of the Transportation Group.

I established Affirm NZ approximately eight years ago, following a long period of employment with Aurecon NZ Ltd, a multi-disciplinary engineering consultancy. For the previous 15-year period I was manager of the Aurecon Nelson office, with specific responsibility for land development and transportation projects.

I am experienced in traffic and transportation engineering and have worked in these disciplines throughout the Nelson, Tasman and Marlborough regions and New Zealand. I have also completed many traffic and access assessments for developments adjacent to both local roads and state highways throughout the Tasman region over the past 20 years. I am also an experienced road safety and safe system auditor and have completed numerous Safety Audits for NZ Transport Agency Waka Kotahi as well as for Tasman District Council (the Council) on local road projects.

3. Documents Reviewed

As well as the documents previously submitted by Town Planning Group (NZ) Limited on behalf of Bekon Media for the initial resource consent application of 21 May 2024, (referenced in Section 3 of the previous Affirm NZ review), for the purpose of this review I have considered the following documents submitted for the amended application:

1. Amendments to Application, prepared by Town Planning Group (NZ), 7 October 2024, including the latest version of the proposed consent conditions as Attachment [A] (the Amendment cover letter).
2. Proposed Digital Billboard, 332 Queen Street: Proposed Reorientation, Carriageway Consulting, 4 October 2024 (the Carriageway letter).
3. Urban Design and Visual Impact Addendum Statement, DCM Urban Design Ltd, 7 October 2024 (the DCM letter).

4. Urban Design and Visual Impact Assessment Graphic Attachment (Revision N), DCM Urban Design Ltd, 7 October 2024 (the DCM Graphic Attachment).

In addition, I have also reviewed the statement from Waka Kotahi of 25 October 2024, (Waka Kotahi statement) prepared by Jeremy Talbot, Principal Planner. In that statement, Waka Kotahi advise that their primary issues have been addressed by the applicant in the amended application along with the proposed draft conditions, and that they consider that the billboard will have acceptable effects on the safe and efficient functioning of the state highway. As such, they do not they do not oppose the amended application and will not be submitting evidence for the hearing.

4. Amendment Changes

The amendments to the application are set out in the Amendment cover letter, and are briefly summarised as follows:

1. Reducing the nighttime maximum luminance level to 125cd/m² rather than the 250cd/m² proposed in the original application.
2. Reorientation of the billboard to face a south-east direction in order to restrict visibility of the sign for drivers using the left turn slip lane on the Lower Queen Street approach.
3. Constructing a 'parapet' behind the proposed billboard to improve visual integration between the billboard and the building.
4. Increasing the dwell time of the image displayed from 8 seconds to 30 seconds.
5. Providing an updated set of proposed conditions to reflect the amendment.

It is understood that reorientation of the billboard was made in response to engagement with Waka Kotahi that had raised traffic safety concerns in their submission regarding the unprotected left turn slip lane on this approach. The change to the nighttime luminance level was made to address concerns about adverse lighting effects affecting Richmond's dark sky.

5. Intersection Safety Assessment

The initial seven paragraphs of the corresponding Section 5 from the previous Affirm NZ review remain pertinent to the amended application, while the last two paragraphs are no longer applicable.

This is due to the re-orientation of the billboard so that it can mostly be viewed only from approaching vehicles on the Gladstone Road approach, (aside from short sections on the Lower Queen Street and Queen Street approaches).

6. Carriageway Consulting Report and Letter

All paragraphs on page 3 of the corresponding Section 5 from the previous Affirm NZ review remain pertinent to the amended application.

The Carriageway letter of 4/10/2024 discusses three main items specific to the amended application, being the views of the re-oriented billboard, the effects of the proposed parapet and the increased dwell time.

6.1 Reorientation of Billboard

Lower Queen Street

The reorientation of the billboard greatly reduces opportunities for drivers on the Lower Queen Street approach to view the billboard. In particular, it will not be possible for drivers using the uncontrolled left turn slip on in this leg to view the billboard.

It will be possible for the billboard to be viewed by drivers in the through lane, but only at the very front of the queue. Drivers in the right-turn lane will be able to view the billboard, but only over a distance of approximately 20m from the limit line.

In addition, the visual overlap of the primary traffic signal head that arose with the initial billboard arrangement will be eliminated with the reorientation.

As outlined on page four of the Carriageway letter:

We set out in the Transportation Assessment that we were able to support the billboard in its then-proposed location, and we remain of this opinion. However, the reorientation of the billboard will:

- *Eliminate views from the left-turn slip lane;*
- *Reduces the extent of views from other traffic lanes on Lower Queen Street; and*
- *Eliminate the visual overlap associated with the primary traffic signal.*

Accordingly, in our view the proposed position represents an improved location from a traffic safety perspective compared with that previously proposed.

We concur with these three findings and with the summary statement. In our opinion the reorientation of the billboard away from the Lower Queen Street approach will limit the opportunity for any potential distraction to drivers on this approach, and any adverse traffic safety effects.

Of particular significance is the removal of the ability for drivers using the uncontrolled left turn slip lane to view the billboard, which was a matter raised as a primary concern in the Waka Kotahi submission.

The discussion on page 4 of the previous Affirm NZ review was specific to the Lower Queen Street approach. As a result of the reorientation of the billboard, the matters identified have been addressed. Therefore, all of page 4 of the previous Affirm NZ review is no longer applicable to the amended application.

Queen Street

It will be possible for drivers on Queen Street to view the reorientated billboard, but only over a very short length, and in close proximity to the limit line. Due to the 30km/h speed limit on Queen Street, the approach speeds will be slowest on this leg compared to the other three legs. As for the initial application, there will be no visual overlap with any signal head on this approach.

Gladstone Road

The reorientated billboard will now be 'squared up' more to vehicles on the Gladstone Road approach. Visually, the billboard will be on the right hand side of drivers approaching on this leg. As for the initial application, there will be no visual overlap with any signal head on this approach.

Aside from comparable vehicle queueing during the morning peak on this leg, this approach as a much simpler arrangement than Lower Queen Street. Traffic can only (legally) travel straight through or turn left, the left turn lane is stood up to the signals (unlike the unprotected slip lane on Lower Queen Street) and pedestrians are able to completely cross all lanes at the lights on the pedestrian crossing phase.

6.2 Effects of Parapet

A raised parapet is to be constructed behind the billboard. It is understood that the parapet has been included in response to discussions with Waka Kotahi who had raised concerns about potential dominance of the proposed billboard.

The billboard is large (24.5m²) and will be positioned above the existing building parapet and will therefore be prominent. The proposed raised parapet will likely reduce the visual effects of the billboard but it won't impact the visibility of the billboard to potential viewers.

The assessment of the billboard carried out in the previous Affirm NZ review didn't consider the dominance or prominence of the billboard to provide any additional distraction over the actual billboard advertising messaging. In terms of a road safety perspective, our view is that the inclusion of the parapet will be largely neutral so won't create any adverse road safety effects.

6.3 Dwell Time

The dwell time is proposed to be increased from eight seconds to 30 seconds. It is understood that this change was made in response to engagement with Waka Kotahi that had raised traffic safety concerns regarding limiting drivers ability to see only two changes of image at most.

The Carriageway letter provides an analysis that for a dwell time of 12.4 seconds, fewer than 5% of drivers will see a change of image, allowing for text to be legible at 103m, based on a 50km/h speed limit. Using a speed of 25km/h, the resulting dwell time is 24 seconds.

During the morning peak hour period queues regularly form back west of the Gladstone Road/ Oxford Street intersection some 130m to the west of the intersection. During those periods traffic will typically travel at speeds below 25km/h, as well as be stationary when queued at the traffic signals. At those times, even with a dwell time of 30 seconds, it is likely that they will be exposed to two or more changes in the billboard image.

In addition, while the billboard text may not be legible at distances of more than 103m, the images on the billboard will be, as evidenced by Image VP3 Proposed View in the DCM Graphic Attachment. The background photo for this is at a location on the north side of Gladstone Road approximately 130m from the billboard.

Notwithstanding this, we agree with the summary statement in the Carriageway letter that *'The Applicant's proposal for a 30-second dwell time represents a conservative approach'*, particularly when taken in context against dwell times of 8 seconds that are typical in New Zealand digital billboard installations, and as was proposed for the initial consent.

The increase in dwell time to 30 seconds, will mean that the billboard operation will limit the opportunity for approaching drivers to see two or more images when travelling outside of peak times. This in turn reduces the likelihood of any potential driver distraction caused by the billboard.

7. Submissions

A total of 27 submissions have been received, all of which are in opposition. 22 of the submissions have specifically raised traffic safety matters as the primary reason for opposition.

All submitters have been notified of the amendment and would have the opportunity to comment on this either in expert evidence (should they be providing this) or at the resource consent hearing for those appearing in person to speak to their submissions.

8. Review

A review of crashes at all urban intersections in the Nelson and Tasman regions over the five-year period 2019- 2023 shows that this intersection has a relatively poor safety record overall. The assessment of the intersection crash risk carried out in the previous Affirm NZ review showed the crash rate at the intersection is higher (worse) than that of 70% of similar intersections nationally. This indicates that there are existing safety deficiencies at the intersection, which is contrary to statements in both the Carriageway report and the Application with respect to traffic safety.

Based on these findings, we disagree with the conclusion made in the Carriageway report that *“it does not appear that there are any inherent road safety deficiencies at this location.”*

The purpose of roadside advertising, by its own definition, is to capture attention. This is undesirable from a traffic safety perspective as it could result in driver attention being side-tracked from the key driving tasks. Additional roadside distractions are also contrary to the Safe Systems Approach used in New Zealand for traffic and road safety work.

I agree with the statements in paragraph 3.3.1 of the Carriageway report that *“the available literature is sometimes contradictory”* and that *“it appears that digital billboards do attract driver attention to a greater extent than static billboards.”*

However, the referenced literature from the Carriageway report isn't conclusive with regards to the adverse effect of any increased distraction and whether that leads to an increase in the crash rate. It is acknowledged that reported crash data in New Zealand shows a very low number of crashes where distraction due to roadside advertising is noted as a contributing factor. This is against a background of more than ten years of digital billboard installations nationwide.

The reorientation of the billboard will be such that it will generally only be viewable to drivers on the Gladstone Road approach, with much lessor opportunities to be viewed over short sections of the Lower Queen Street and Queen Street approaches. In comparison to the initial application and billboard positioning, the proportion of drivers through the intersection with the opportunity to view the reoriented billboard is reduced

On the Lower Queen Street approach it will not be able to be viewed at all by drivers using the uncontrolled left turn slip lane, which has a potential for risk to vulnerable pedestrians on the pedestrian crossing. In addition, the billboard won't now cause potential visual overlap of the primary signal head on that approach. The reorientation of the billboard also addresses the other concerns identified in Waka Kotahi submission regarding the unprotected left turn slip lane and in the previous Affirm NZ review noting the various accesses, lane diverges and high volumes of peak hour turning traffic on the Lower Queen Street approach.

The Waka Kotahi statement advises that their primary issues have been addressed in the amended application, such that they consider that the billboard will have acceptable effects on the safe and efficient functioning of the state highway.

The increase of the dwell time to 30 seconds will limit the opportunity for approaching drivers to see two or more images when travelling outside of peak times. This in turn reduces the likelihood of any potential driver distraction caused by the billboard.

The conditions as previously proposed are reasonable, with the inclusion of post-implementation reviews of crashes. There are also indications (by way of Advice Notes only) of measures that can be taken in the event of crashes occurring that can be attributed to the billboard.

9. Proposed Conditions of Consent

The Applicant has volunteered proposed conditions in Attachment A to the Town Planning Group letter of 7/10/2024 on a Without Prejudice basis.

Aside from changes to Condition 1 to reference the amended billboard details and to Condition 13 to adjust the dwell time to 30 seconds, the remaining conditions are unchanged from those provided by the Applicant in the document titled Bekon - Richmond - proposed consent conditions as at 11.09.2024.

Comments on these proposed conditions have previously been provided in Section 9 of the previous Affirm NZ review. Those comments and the recommended amendments remain pertinent to the amended application.

In addition, the Waka Kotahi statement proposes conditions regarding minimum letter size for messages, as well as prohibiting scannable codes in images on the billboard. Essentially the minimum letter height for the primary message would be 150mm and the minimum letter height for any other text would be 75mm. Any smaller text such as that within logos and/or images, legal disclaimers, terms and conditions etc would not be subject to any minimum size.

The Waka Kotahi proposed conditions on letter height are consistent with Table 6.4 from the Waka Kotahi Traffic Control Devices Manual (Part 3, Advertising Signs) and we view these as appropriate conditions for the digital billboard.

10. Summary

A review of crashes at all urban intersections in the Nelson and Tasman regions shows the intersection has a poor safety record with a crash rate that is higher (worse) than that of 70% of similar intersections nationally.

The billboard has the potential to distract driver's attention, which could be detrimental to their decision-making capacity. While it is likely that digital billboards do attract driver attention to a greater extent than static billboards, research isn't conclusive with regards to the adverse effect of any increased distraction and whether that leads to an increase in the crash rate. It is acknowledged that reported crash data in New Zealand shows a very low number of crashes where distraction due to roadside advertising is noted as a contributing factor.

The changes made in the amended application, particularly the reorientation of the billboard to face a south-east direction, will minimise the potential for adverse traffic safety effects on Lower Queen Street. The reorientation of the billboard has also eliminated the visual overlap that would have occurred for the primary signal head on Lower Queen Street with the previous billboard orientation.

In comparison to the initial application and billboard positioning, the proportion of drivers through the intersection with the opportunity to view the reoriented billboard is reduced.

As a result of the amendments, any potential for adverse traffic safety effects as a result of the billboard installation is largely confined to just the Gladstone Road approach, which is a much simpler arrangement than Lower Queen Street as traffic can only (legally) travel straight through or turn left and the left turn lane is stood up to the signals.

The increase of the dwell time to 30 seconds will limit the opportunity for approaching drivers to see two or more images when travelling outside of peak times. This in turn reduces the likelihood of any potential driver distraction caused by the billboard.

While we still note the underlying safety record of the intersection, in our opinion the amended application largely mitigates the potential for adverse traffic safety effects raised in the previous Affirm NZ review as well as the Waka Kotahi submission.



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