Resource Management Act 1991

Christchurch City Council

Report on a Publicly Notified Resource Consent Application

(Section 42A)

Application Reference:	RMA/2020/702
Applicant:	Lumo Digital Limited
Site address:	399 Lincoln Road, Addington
Legal Description:	Pt RS 9 Canterbury Dist and Lot 1 DP 1406
Proposal:	Establish two 29.2m² digital billboards
Zoning:	Industrial General
Overlays and map notations:	Christchurch International Airport Protection Surfaces Liquefaction Management Area Adjoins Major (Moorhouse Avenue) and Minor (Lincoln Road) Arterial Roads Adjoins Highly Significant Heritage Item (Hagley Park)
Activity status:	Restricted Discretionary
Submissions:	Four in support Seven in opposition One which does not state a position (Three of these submitters have indicated that they wish to be heard and/or potentially make a joint submission at the hearing) A summary of submitters is included as **Appendix A**
Date of Hearing:	1 December 2020
Recommendation:	Decline subject to conditions

Preamble

1. My name is Matthew Klomp. I am employed as a Planner, by the Christchurch City Council. I have been employed by the Christchurch City Council since June 2015. I hold a Master of Planning degree and a Bachelor of Science degree. I am an Intermediate member of the New Zealand Planning Institute and have 5 years of experience working in the planning and resource management field.

2. This report has been prepared with advice from the technical experts detailed below. A copy of their reports has been attached in the appendices.

Officer	Position	Appendix
Megan Gregory	Senior Transportation Engineer, ViaStrada	B

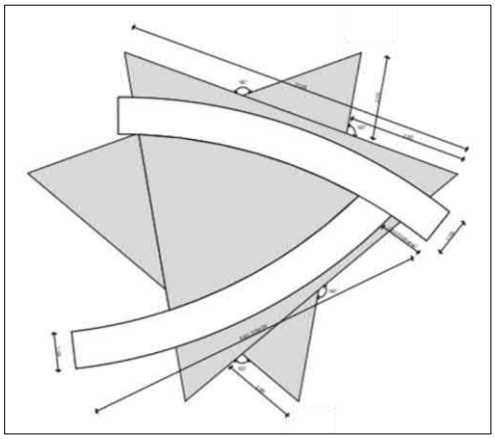
David Hattam	Senior Urban Designer, Christchurch City Council	C

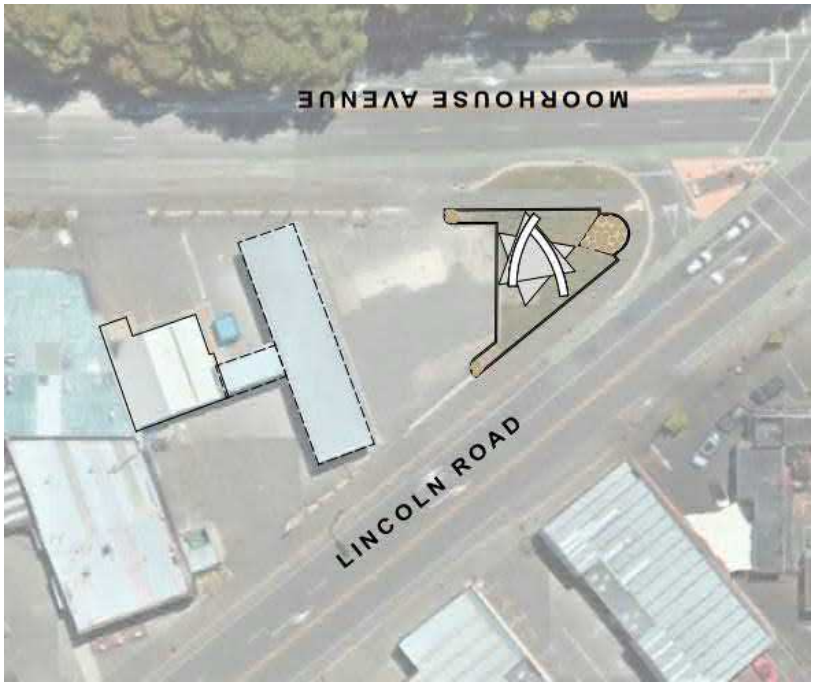
3. This report reviews the application for resource consent and addresses the relevant information and issues raised. It should be emphasised that any conclusions reached or recommendations made in this report are not binding on the Commissioner. It should not be assumed that the Commissioner will reach the same conclusion or decision having considered all the evidence to be brought before him by the applicant and submitters.

Proposed activity

4. Lumo Digital Limited has applied for resource consent to establish two 29.2m² digital billboards at 399 Lincoln Road, Addington.

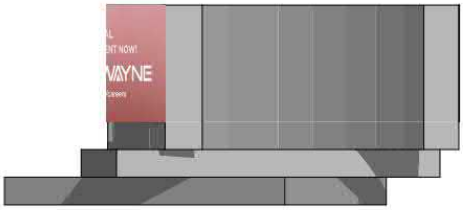
5. The proposal is outlined in paragraphs 14-18 of the updated application document (dated August 2020) but in brief, the main features include:
    - Each billboard will be single-sided and have a curved digital display;
    - The billboards will each have dimensions of 9.9m (w) and 2.95m (h) (29.2m²). The platforms which the billboards will be affixed to will have a height of 2.1m (maximum height of billboards will be 5.05m);
    - The billboards will be connected in a v-shape (as illustrated below);
    - The billboards will be located in the northeast corner of the site;
    - Landscaping is proposed around the base of the billboards. This will consist of low-level native species endemic to the wider Christchurch area. A landscaping plan will be submitted to the Christchurch City Council for certification should consent be granted; and
    - *The billboards will display a range of changeable advertisements, the nature of which will be dependent upon individual clients. Each billboard will be operated within the following parameters:*
        - *spill of light will not exceed 10 lux when measured 2 metres within the boundary of any adjacent site or arterial road (in this case applying to both Moorhouse Avenue and Lincoln Road);*
        - *only still images (without movement, animation or flashing) will be displayed, for a minimum duration of 16 seconds;*
        - *the billboard will not contain any retro-reflective material;*
        - *each image will transition to the next via a 0.5 second 'dissolve'; and*
        - *each billboard will incorporate control systems to enable the adjustment of brightness dependent upon ambient light levels.*





1 - **ELEVATION MOORHOUSE / LINCOLN CORNER**
Scale 1:100

2 - **ELEVATION MOORHOUSE AVE**
Scale 1:100

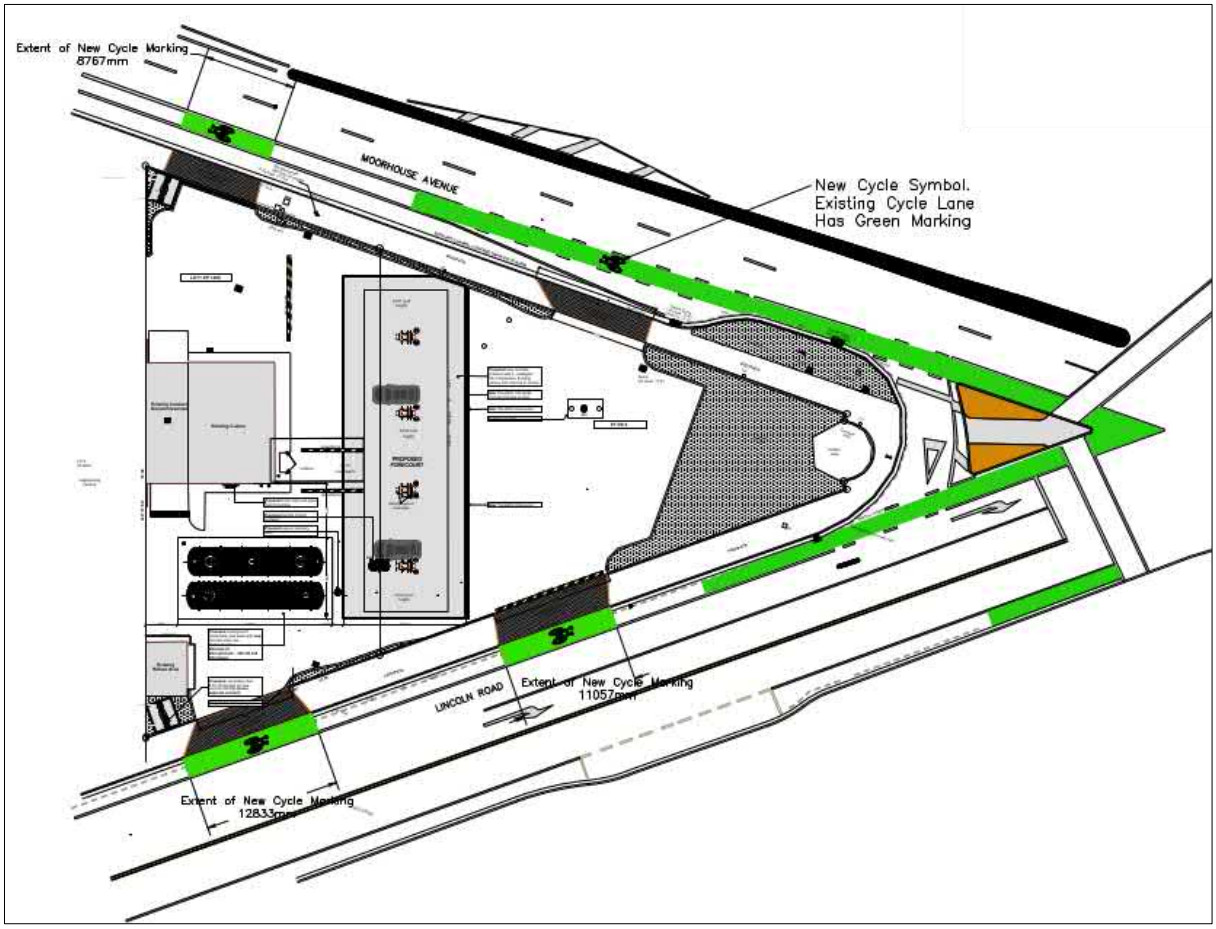


3 - **ELEVATION LINCOLN RD**
Scale 1:100

Background

6. This application for resource consent was received on 2 April 2020. On 27 August 2020 the applicant formally requested that the application be publicly notified under Section 95A(3)(a). The application was publicly notified on 7 September 2020. The submission period closed on 2 October 2020. A total of 12 submissions were received during this period - four in support, seven in opposition and one which did not state a position.

7. I note that a resource consent application was recently granted for the establishment of a service station activity on the site (RMA/2020/392 granted 10 June 2020). The approved site plan is included below. The service station is to be operated by Gull New Zealand Ltd. in a self-serve format (i.e. unmanned). The site is currently under construction. The existing, dis-used convenience store and car wash did not form part of this application. The existing canopy was sought to be retained. Signage was proposed as part of this application, including two new pylon signs which feature digital fuel pricing displays. The applicant and Gull NZ have confirmed that the proposed digital billboards will not interfere with the operation of the consented service station activity in any way.



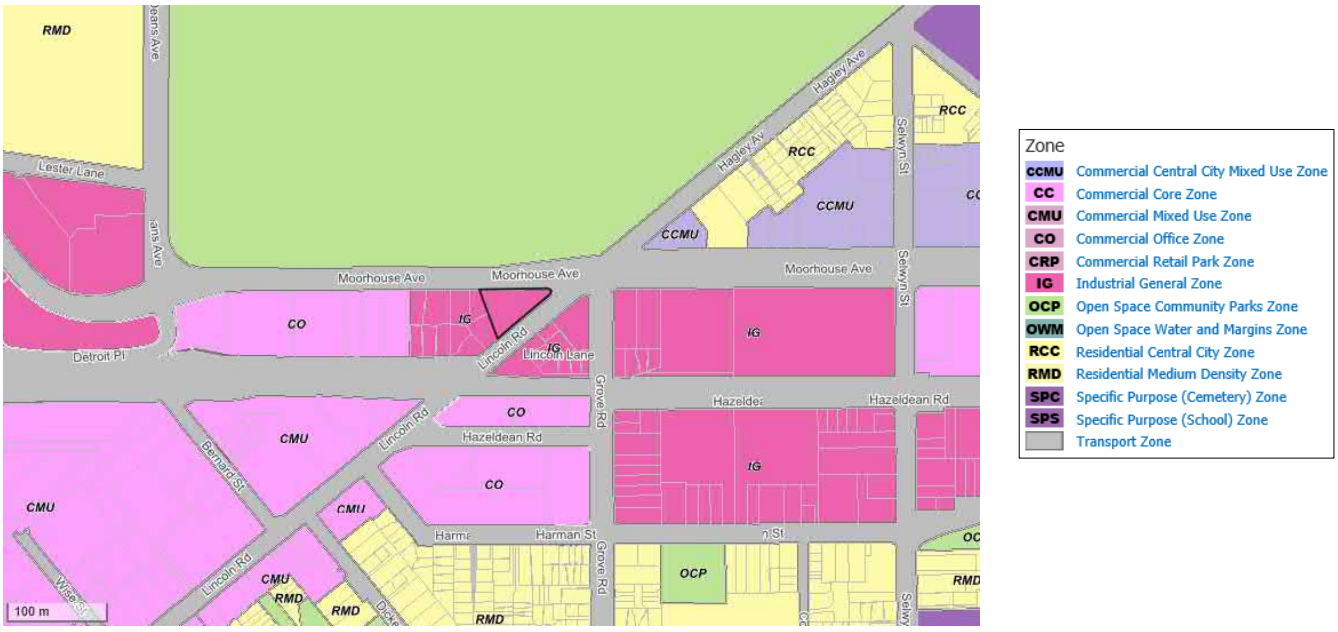
Description of the site and existing environment

8. The application site and surrounding environment are described in paragraphs 14-18 of the updated application document. I adopt the applicant's description and note the following additional points:

   - The site is situated opposite Hagley Park which is owned by the Christchurch City Council and which is listed as a 'Highly Significant' Heritage Item in the District Plan (Heritage Item Number: 1395). Policy 18.2.2.1 explains that Hagley Park has *important heritage values, botanical, educational, cultural and/or recreational values and provides for entertainment*. I note that

reference to this policy is purely contextual, acknowledging that the application holds restricted discretionary activity status overall. Hagley Park is considered to be one of (if not the most) important public spaces in Christchurch City.

- The character and amenity of the surrounds is mixed. Moorhouse Avenue and the area south of the road corridor is characterised by commercial and industrial activities, adjoined by wide roads which carry high volumes of traffic. This area contains a lot of signage and little vegetation, and is considered, in an overall, sense to be characterised by a low standard of amenity. The block situated north east of the site is zoned a combination of Commercial Central City Mixed Use and Residential Central City. This area, particularly that which adjoins Hagley Park along Hagley Avenue, is considered to be characterised by a higher standard of amenity. It is typically residential in nature.
- According to the Christchurch City Council's traffic counts database[1], the Grove / Hagley / Lincoln / Moorhouse intersection was one of the top 20 busiest intersections in Christchurch[2]. Two-way traffic volumes on Moorhouse Avenue, east of the Lincoln Road intersection, were 53,532 vehicles per day (vpd) with peak hourly flows of around 7,503 vph during the AM and PM periods (August 2020). Two-way traffic volumes on Lincoln Road, southwest of the Moorhouse Avenue intersection, were 19,817 vpd and 2,698 vph during the peak AM and PM periods (August 2020).
- A railway crossing is situated approximately 50m southwest of the application site (on Lincoln Road).
- A breakdown of existing, consented and permitted billboards is attached as **Appendix D**. Of note, there are three existing digital billboards located in proximity to the application site and the Grove / Hagley / Lincoln / Moorhouse intersection. These include a 32m² double-sided billboard at 60 Grove Road, a 32m² single-sided billboard at 420 Hagley Avenue and an 18m² double-sided billboard at 26 Moorhouse Avenue.



District Plan and National Environmental Standards – Relevant rules and activity status

Christchurch District Plan

9. The site is zoned Industrial General under the District Plan.

[1] https://ccc.govt.nz/transport/transport-projects/traffic-count-data/
[2] vehicular traffic - excluding most state highway intersections

10. The provisions related to signage are contained in sub-chapter 6.8 in the District Plan. The objectives and policies here generally seek ensure that the character and amenity values of sensitive environments (including residential and open space zones) are protected from adverse visual and amenity effects from large areas or numbers of signs, or off-site signs, and ensure that signs do not cause obstruction and/or distraction for motorists and pedestrians and other road users. Key objectives and policies are listed within **Appendix E**, and are discussed in detail in a later section of this report.

11. The proposal requires resource consent under the following rules in the District Plan:

Activity status rule	Standard not met	Reason	Matters of control or discretion
6.8.4.1.3 RD3	6.8.4.1.1 P15	The proposed digital billboards will not comply with activity specific standards a. and f. as they will be greater than 18m² in area and as they will be located less than 50m from a signalised intersection.	6.8.5.3 Static and digital billboards

12. For completeness, I note that the Industrial General zone built form standards do not apply to the proposed signage (see Rule 6.8.3(b)).

13. Overall the proposal must be considered as a **restricted discretionary activity** under the District Plan.

National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS)

14. These standards seek to ensure that land affected by contaminants in soil is appropriately identified and assessed before it is developed and if necessary the land is remediated or contaminants contained to make the land safe for human use.

15. The NESCS controls soil disturbance on land where an activity on the Hazardous Activities and Industries List (HAIL) is being carried out, has been carried out, or is more likely than not to have been carried out. The application site is identified as HAIL land in Environment Canterbury's Listed Land Use Register (F7 - Service stations, A18 - Wood treatment or preservation and bulk storage of treated timber) therefore the provisions of the NESCS apply.

16. The applicant has confirmed that no material will be removed from the site and that the volume of earthworks will be permitted under Regulation 8 of the NESCS.

Submissions

17. A total of 12 submissions were received on this application (four in support, seven in opposition and one which did not state a position). A summary of these is included as **Appendix A**. Copies of all submissions have been provided to the Commissioner.

18. The reasons for the submissions in support are summarised as follows:
    - The proposal will create jobs.
    - The proposal will have "no effect" on Gull NZ Ltd's business operating on the same site.

19. The reasons for the submissions in opposition are summarised as follows:
    - Traffic safety and efficiency - driver distraction.

- Visual amenity.
- Impacts on neighbouring property - as viewed from Hagley Park and the apartments at 420-426 Hagley Avenue.

20. The submission which did not state a position contained no reason(s).

21. As above, a concern raised by one of the submitters (P Garlick) was the impact that the proposal may have on the market value of their property. The perception of loss in property value is not a matter which Council can have regard to in considering this application. I also note that this is not a matter that features in the matters of discretion in Rule 6.8.5.3 in the District Plan (discussed further below).

Resource Management Act 1991

22. When considering an application for resource consent and any submissions received, the consent authority must have regard to the matters listed in Sections 104C of the Resource Management Act 1991. Subject to Part II of the Act, which contains the Act's purpose and principles, including matters of national importance, the consent authority shall have regard to:

a) Any actual and potential effects on the environment of allowing the activity.
b) Any relevant provisions of a plan or proposed plan,
c) Any other matter the consent authority considers relevant and reasonably necessary to determine the application.

23. It should be noted that other than giving pre-eminence to Part II, Section 104 gives no priority to other matters. They are all matters to have regard to and the consent authority must exercise its discretion as to the weight that it gives certain matters, depending on the circumstances of the case.

24. Under Section 104C, when considering an application for resource consent for a restricted discretionary activity, a consent authority may grant or refuse the resource consent, and (if granted) may impose conditions under section 108. The proviso to this section is that the consent authority must consider only those matters specified in the plan or a national environmental standard over which discretion is restricted, and may impose conditions only for those matters.

25. Pursuant to Section 104(3)(a)(i) a consent authority must not have regard to trade competition when considering an application.

Actual and Potential Effects on the Environment (S.104 (1)(a))

26. As a restricted discretionary activity the Council's assessment of the effects of this proposal is limited to: Static and digital billboards (6.8.5.3). These matters of discretion are included below (and in **Appendix E**).

a. Whether the scale, design, colour, location and nature of the billboard will have impacts on the architectural integrity, amenity values, character, visual coherence, and heritage values of:
    i. the building and the veranda on which the billboard is displayed and its ability to accommodate the signage;
    ii. the surrounding area (including anticipated changes in the area);
    iii. residential activities; and
    iv. heritage items or heritage settings, open spaces, protected trees or areas possessing significant natural values.
b. Whether the extent of the impacts of the billboard are increased or lessened due to:

i. *the design, dimensions, nature and colour of the sign or support structure;*
ii. *the level of visibility of the billboard; and*
iii. *vegetation or other mitigating features.*

c. *Whether the billboard combines with existing signage on the building, the site or in the vicinity, to create visual clutter or set a precedent for further similar signage.*
d. *Whether the billboard:*
   i. *enlivens a space or screens unsightly activities; and*
   ii. *will result in an orderly and coordinated display.*
e. *Whether the extent of the impacts of the billboard are increased or lessened due to:*
   i. *the frequency and intensity of intermittent or flashing light sources, and the proposed periods of illumination and frequency of image changes;*
   ii. *the prominence of the billboard due to its illuminated or animated nature and ability to draw the eye;*
   iii. *the nature of surrounding land use activities;.*
   iv. *the proximity of the display to other properties and the likely effects of such intermittent or flashing lights or changing images upon those properties and their occupants; and*
f. *The potential of the billboard to cause distraction or confusion to motorists in their observance of traffic conditions, directions or controls.*

Section 104(2) – Permitted baseline

27. Prior to undertaking an assessment of the effects of this proposal it is useful to consider discretion available under Section 104(2) of the Act (referred to as the "permitted baseline") whereby a consent authority may disregard an adverse effect of an activity on the environment if the Plan or national environmental standard permits an activity with that effect. Case law has established that this relates to the effects of non-fanciful hypothetical activities which could be carried out as of right under the Plan.

28. As relevant to the application, the permitted baseline is detailed in paragraphs 34-41 of the updated application document. In brief, two double-sided **18m²** digital billboards up to 9m in height are permitted to be established on the application site under Rule 6.8.4.1.1 P15. The application site is permitted to contain this number of billboards given its frontage length, which is greater than 80m. It is noted that the billboard displays would need to be configured in a v-shaped format joined at the apex, similar to that proposed, and that they could not be separated by an angle of more than 30 degrees. The digital billboards would also be required to comply with the following (remaining) activity specific standards:

d. *Any billboard shall not be directly visible from any site within a residential zone.*
e. *Each billboard shall be subject to a written maintenance programme, in the form set out in Appendix 6.11.16, to be undertaken by the operator/provider, that has been lodged with the Council prior to the erection of the billboard.*
f. ***The billboard shall be located at least 50 metres from any signalised traffic intersection***.[3]
g. *The billboard shall result in no more than 10.0 lux spill (horizontal and vertical) of light when measured or calculated 2 metres within the boundary of any adjacent site and/or arterial road and/or collector road.*
h. *No live broadcast or pre-recorded video shall be displayed on the screen. Only still images shall be displayed with a minimum duration of 7 seconds.*

[3] The term intersection is defined in the District Plan as:

Intersection
in relation to two or more intersecting or meeting roadways or railway lines, means that area contained within the prolongation or connection of the lateral boundary lines of each roadway or railway.

On this basis, I consider that the intersection is the point at which the road boundaries of the site when extended outwards toward the intersection meet. I note that the left turn from Lincoln onto Moorhouse is not signalised. I consider the 50m setback shown on the application plans to be correct.

i. There shall be no movement or animation of the images displayed on the screen.

j. The material displayed on the screen shall not contain any flashing images and the screen itself shall not contain any retro-reflective material.

k. There shall be no transitions between still images apart from cross-dissolve of a maximum of 0.5 seconds.

l. There shall be no sound associated with the screen and no sound equipment is to be installed as part of the screen.

m. The screen shall incorporate lighting control to adjust brightness in line with ambient light levels.

n. The billboard shall not be located on or adjacent to a state highway with a speed limit that is greater than 70km/hr.

29. As outlined previously, the proposal complies with all of these requirements with the exception of the size of the digital billboard displays and their proximity to the Moorhouse / Lincoln / Hagley / Grove intersection. The applicant has provided illustrations of two variations of the abovementioned permitted baseline. These are attached as **Appendix F**. I highlight that the location and design of any compliant billboard(s) on the site could not impede access associated with the consented service station activity on the site (refer to site plan beneath paragraph 7 of this report) nor could it overhang the site boundary onto the road or an adjoining site. I note that with respect to (d) above, the Council interprets this to mean the face of the billboard is not directly visible, notwithstanding that the definition of billboard includes the support structure.

30. The use of Section 104(2) is discretionary, however I see no reason why that discretion should not be exercised in this case.

Transport effects

31. As explained previously, the District Plan requires that billboards be set back at least 50m from a signalised intersection in this location. In my view, this requirement is clearly tied to the potential safety risks associated with having billboard displays, which by design draw ones attention, located within proximity to a signalised intersection where key decisions are made by users, including: drivers, cyclists and pedestrians. This was a concern raised by submitters.

32. The matter of discretion relevant to assessment of these effects include:

- *The potential of the billboard to cause distraction or confusion to motorists in their observance of traffic conditions, directions or controls.*

The relevant objectives and policies are discussed further on in this report.

Applicant's original assessment

33. The application was accompanied by an integrated traffic assessment (ITA) prepared by Chris Rossiter, Principal Transportation Engineer at Stantec. The ITA includes a description of the surrounding transport infrastructure, traffic volumes and road safety. In brief, Moorhouse Avenue and Lincoln Road are classified as Major and Minor Arterial roads in the District Plan respectively. Both have sign posted speed limits of 50km/h. Lincoln Road, north of the railway crossing, widens to two lanes on its approach to the Moorhouse Avenue intersection. Otherwise Lincoln Road is generally constructed as a two-lane road. East of Lincoln Road, Moorhouse Avenue has been constructed as a six-lane divided road with auxiliary turn lanes at intersections. West of Lincoln Road, it has been constructed as a four-lane divided road. I add that Grove Road and Hagley Avenue are only accessible from Moorhouse Avenue via left turn in and right turn out respectively. The Moorhouse / Lincoln / Hagley / Grove intersection is controlled by signals with phasing that provides crossing opportunities for both pedestrians and cyclists.

34. As explained previously, the Grove / Hagley / Lincoln / Moorhouse intersection is one of the busiest intersections in Christchurch and carries a significant volume of traffic on a daily basis. The ITA includes turn count information in section 3.1.

35. On review of the NZTA Crash Analysis System, the ITA explains that 29 crashes were reported within 200m of the intersection between 2015-2019. One of these resulted in serious injuries and five others resulted in minor injuries. The ITA includes the following description of the causes of the 29 crashes recorded:

"*The serious injury crash occurred on Moorhouse Avenue east of the intersection and occurred in the early hours of the morning when an intoxicated driver lost control of their vehicle and collided with a pole on the side of the road. No other vehicles were involved.*

One of the minor injury crashes involved a collision between a cyclist and motor vehicle as it turned into a driveway. There were three rear end crashes on Moorhouse Avenue east of the intersection, one during the night, one in the middle of the day and one during the late evening period. Each one was attributed to the driver failing to notice a slowing vehicle. The other minor injury crash occurred when a right turning vehicle from Moorhouse East misjudged the speed of an oncoming vehicle.

Eleven of the 21 non-injury crashes involved rear-end collisions resulting from a range of contributing factors including: drivers following too closely, inattention and excess alcohol. These types of crashes occurred on all three approaches to the intersection and were more frequent during the afternoon peak period.

The other non-injury crashes were associated with lane change manoeuvres or as vehicles turned right."

36. The ITA then goes on to discuss the expected traffic effects associated with the proposed billboards in proximity to the intersection. It considers the most critical part of the approach in terms of the potential for driver distraction is the decision zone, which represents the part of the approach where a driver will decide to stop or continue. As the sign posted speed limit is 50km/h the ITA has conservatively adopted a speed of 55km/h. The ITA explains that the Approach Sight Distance (ASD) represents the distance travelled by a vehicle as a driver observes, responds and then brakes. At an approach speed of 55km/h and allowing for a comfortable deceleration rate, the ASD is 63m. Accordingly, vehicles at a distance of more than 63m from the limit line would be expected to stop if the signal changed from green to amber. A vehicle will travel about 46m if it brakes from an initial speed to of 55km/h at a comfortable deceleration rate and 33m if it decelerates at the maximum design rate. On this basis, vehicles that are closer than 33m from the limit line when the signal changes would normally continue through the signal. The decision zone is therefore between 33m and 63m in advance of the limit line.

37. With respect to the proposed east facing billboard, the ITA includes horizontal and vertical alignments of sightlines from positions at the start and end of the decision zone on the westbound approach on Moorhouse Avenue towards the intersection. These sightlines demonstrate that the Advance Primary and Primary traffic signals will be aligned with the billboard when viewed from the start and end of the decision zone, and that a drivers view when within the decision zone in the left turn lane is such that the signal lanterns will always be visible above the billboard.

38. The ITA adds:
- That the proposed east facing billboard will be located approximately 60m behind the primary signal aspects for the left turn lane and *in that position will occupy a small part of the driver's field of view;*
- *The signal aspects all have standard black backing boards designed to ensure the signals stand out regardless of the background environment.*
- *The signal aspects have bright LED lights, which will be brighter than background digital billboards.*

- *The significant distance between the aspects and billboard allows for a changing relative view and size between the aspects as a driver travels through the decision-making zones closer to the intersection. Most significantly, the relative position of the signal aspect rises above the billboard as the driver approaches the limit line which reduces any potential for conflict.*
- *The billboard is a completely different shape to the signal aspects, and the signal aspects have long yellow poles as an additional identifier, consistent across all traffic signals in New Zealand.*
- *The traffic signalised intersection has built-in redundancy, and in this case, the secondary signal aspect remains visible at all times to the right of the billboard.*

39. On the basis of the above the ITA considers the sitting of the proposed east facing billboard is unlikely to cause drivers confusion in identifying the traffic signal aspects.

40. With respect to the proposed west facing billboard, the ITA explains that the billboard is not located in the sightlines towards any west facing signal aspects, adding that traffic signals are located on either side of the eastbound carriageway. Accordingly, it considers that the content of the billboard will not obstruct or obscure visibility of any signal aspects for the western approach.

41. The ITA also addresses potential for conflict between the proposed digital billboards and existing billboards in the surrounding area, specifically the existing 32m² double-sided digital billboard at 60 Grove Road, located approximately 50m east of the intersection. The ITA explains that as the proposed east facing billboard is located more than 80m from this existing billboard that it will occupy a smaller viewing angle for divers approaching the intersection from the east, and therefore any display transition will be less noticeable on the proposed billboard as compared to the existing billboard. The ITA does not consider it practical or possible to co-ordinate image transitions between the existing and proposed billboards (noting that the existing billboard is operated by Etcmedia Ltd and has a minimum display time of 8 seconds, half of that proposed). Notwithstanding the ITA does not consider this to be necessary given the amount of existing signage present along Moorhouse Avenue.

42. The ITA recommends that the following conditions be placed on the consent:
- *The billboard shall generate no more than 10lux light spill of light when measured 2m from any arterial or collector road.*
- *No live or broadcast images shall be displayed. Only still images shall be displayed with a minimum duration of 8 seconds.*
- *There shall be no movement or animation of images displayed on the screen.*
- *The material displayed on the screen shall not contain any flashing images and the screen itself shall not contain any retroreflective material.*
- *There shall be no transitions between images apart from cross-dissolve of maximum duration of 0.5 seconds.*
- *There shall be no sound associated with the screen and no sound equipment is to be installed as part of the screen.*
- *The screen shall incorporate lighting controls to adjust brightness in line with ambient light conditions.*

I note that the applicant has volunteered all of these conditions, including a minimum display time of 16 seconds.

43. The ITA concludes that the proposal can be supported subject to compliance with the abovementioned conditions.

ViaStrada's preliminary comments

44. ViaStrada were commissioned by Council to undertake a peer review of the application. Megan Gregory, Senior Transportation Engineer from ViaStrada, has prepared this assessment. Ms Gregory's final memo (including addendum) is attached as **Appendix B**. On an initial review of the application Ms

Gregory identified that the sightline assessment undertaken by Stantec only included drivers of light vehicles, such as cars, and not that of heavy vehicles, such as trucks. This omission was included in the section 92 request for further information issued 28 April 2020.

Applicant's updated assessment

45. The applicant submitted an addendum to Stantec's traffic assessment on 25 May 2020. This addendum addressed truck driver sightlines and examples and research associated with digital billboards located in proximity to signalised intersections elsewhere. With respect to truck driver sightlines, Mr Rossiter explains that of the three traffic signals which face eastwards towards traffic on Moorhouse Avenue approaching the intersection (poles 6, 7 and 10) two of these will partially align with the proposed east facing billboard. Again, Mr Rossiter considers that as the traffic signals contain a black backing board that the visibility of the aspects are unlikely to be confused with the content of the billboard.

46. Mr Rossiter adds that as the decision zone is approximately 30m long that this distance would take approximately two seconds for a vehicle to cross. With an image display time of 8 seconds the probability that an image will change while a vehicle traverses the decision zone is 1 in 4. I note that the proposed minimum display time is 16 seconds which means the probability is reduced to 1 in 8. According to Mr Rossiter, the number of trucks turning left at the intersection onto Lincoln Road (from Moorhouse Avenue) accounts for less than 5% of all turning movements. On this basis, he has determined that the probability that an image displayed on the billboard will change while truck is traversing the decision zone will be less than 1 in 100 if the minimum display time were 8 seconds. In summary, Mr Rossiter finds that as the secondary signal aspect will remain visible at all times to all drivers approaching the intersection (westbound on Moorhouse), *the short period of potential conflict for truck drivers is not expected to adversely affect safety.* He considers that a*ny concerns with this potential conflict could be addressed by increasing the minimum image duration time.* Again, I note that the applicant has increased the minimum display time from 8 to 16 seconds during the processing of this application.

47. With respect to examples and research associated with digital billboards located in proximity to signalised intersections elsewhere, Mr Rossiter explains that *digital billboards have been now been installed in a wide variety of locations across the country and there is no evidence in the crash record that suggests any adverse safety impacts despite the fact that the many of these are located close to signalised intersections.* He adds that *the ARRB* (Australian Road Research Board) *study of before and after driver performances and road safety at signalised intersections where billboards were established revealed no adverse effects* and that *in fact, driver safety performances slightly improved following implementation of a digital billboard*.

ViaStrada's final comments

48. Following review of the above ViaStrada provided their final memo (including addendum) dated 4 November 2020. The key points from this assessment are noted below.
    - The ITA confines its assessment to approaching drivers within the decision zone. ViaStrada consider that this should also include drivers waiting at the limit line and those travelling through the intersection. This is because drivers waiting at the limit line may make a false start as a result of misinterpreting the change in image displayed on the billboard for a change in traffic signals. Drivers travelling through the intersection need to concentrate on their positioning and be aware of the movements of other vehicles around them.
    - The ITA establishes that the proportion of heavy vehicles in the Moorhouse Ave east left turn approach is 5.6% and 4.4% in the AM and PM peak periods respectively. ViaStrada does not

consider these proportions to be negligible, and highlights that and any crash that did result involving a truck would be more likely to have serious consequences.

- ViaStrada consider that it is critical that the proposed billboards should not be in the same line of sight as the traffic signals for a driver in the decision zone (discussed further below).
- ViaStrada considers that the conclusions reached in the ITA ignore the fact that advertising billboards are specifically designed to attract people's attention, and that it is not just a matter of *confusion*, but also *distraction*. ViaStrada consider that the following additional factors should be considered:
    - *Whilst being farther from approaching drivers than the traffic signals, the billboards will still occupy a much greater proportion of the drivers' field of vision, especially since they are larger than the permitted size.*
    - *The images on the billboards will also change frequently and the billboard operator would have no way of ensuring that the billboard does not change images around the same time the signals for approaching drivers change from green to yellow.*
    - *Whilst conditions may be imposed to prevent the billboard from using the colours used in traffic signals, there may still be issues with the billboard colours not sufficiently contrasting with the signal colours - e.g. a pink billboard may not contrast sufficiently with a red signal.*
    - *Traffic signals, despite being designed to stand out, are commonplace in the road environment, relatively small, and involve only simple changes between colours which are less likely to attract attention than the changing images on a billboard.*
- ViaStrada refer to the findings of Turner (2016)[4] in their assessment. Turner recommends that "*when signs are located close to key decision points (e.g. intersections), DPADs [Digital and Projected Advertising Signs] should be located outside cone of vision to reduce number of glances and likelihood of obscuring traffic signs and traffic signals*". Turner also warns that while "*research has shown that as a result of diverting attention to billboards there is relatively little impact on vehicle control, but a significant impact on detection of and response to hazards (e.g., slowing vehicle ahead, pedestrian crossing the street). The result of this distraction is sometimes a crash*".
- With respect to the previously mentioned reference in the ITA to digital billboards in other locations across the country and the ARRB study, ViaStrada consider these references to be suitably vague. ViaStrada consider that the applicant should demonstrate how these other locations compare to the proposal in terms of the location of the billboard(s) in proximity to a busy intersection and their visibility to drivers. They also note that the ARRB study cautions that its findings "*only relate to two specific sites and not to digital billboards generally*".
- The ITA did not include sightlines for the permitted baseline scenarios. ViaStrada have put together approximate sightlines and confirm that a billboard(s) set back 50m from the intersection would be clear of poles 6 and 7, which, as discussed previously, are the critical ones for drivers in the decision zone.
- ViaStrada address the potential for conflict with existing billboards. They comment that the proposal adds further competition for drivers' attention and therefore increases the risk that they will not pay sufficient attention to the traffic signals or surrounding traffic. Although ViaStrada highlight that the most important consideration remains to be the proximity of the proposed billboards to the signalised intersection.
- With respect to the 1 in 4 probability that an image will change while a vehicle traverses the decision zone and then applying this to the percentage of truck movements on the Moorhouse east approach onto Lincoln, ViaStrada explain that it does not make statistical sense to apply the percentage of trucks in the traffic composition to this figure[5].

[4] Turner, S. (2016). Digital and Projected Advertising Signs: Road Safety Considerations and Consent Conditions

[5] For a given truck driver, the probability of them encountering a change in billboard display remains at 1 in 4 for an 8 second display time, and if the display time is increased to 16 seconds, the probability of a truck driver experiencing a

- ViaStrada address the recent changes to the Grove / Hagley / Lincoln / Moorhouse intersection. This included restricting access to and from Grove Road and Hagley Avenue to entry and exit only from Moorhouse Avenue respectively. However, one of the issues identified in the post-construction road safety audit was that vehicles turning left from Moorhouse Avenue onto Lincoln Road often encroached the adjoining cycle lane. The safety audit considered that any conflict was likely to be infrequent, but that any such conflict which did occur would likely result in serious injury. ViaStrada consider the introduction of the east facing billboard to this current situation would result in **minor** adverse effects, but that when/if the Lincoln Road bus priority improvements, which include moving the cycle lane onto the footpath on the corner, are implemented that this would be reduced to a **less than minor** adverse effect.
- In section 3 of ViaStrada's assessment they include a table summary of their findings. With respect to each approach, they conclude:
    - Moorhouse east (approaching intersection) - **More than minor**
    - Moorhouse east (waiting at limit line) - **At least minor**
    - Left turn from Moorhouse east onto Lincoln - **Minor**
    - Straight through intersection from Moorhouse east - **Less than minor**
    - Moorhouse west (approaching intersection) - **At least minor**

  In every instance, they consider the adverse effects associated with the permitted baseline scenarios to be less concerning given the permitted billboards would be smaller in size, further away from the intersection, and not in-line with critical traffic signal faces.

49. Overall, ViaStrada find that the proposed billboards will distract drivers' attention away from the necessary observance of traffic conditions, directions, and controls (traffic signals). On this basis, ViaStrada is unable to support the proposal from a transport safety perspective. They clarify that the most critical of the various traffic movements discussed is traffic on the Moorhouse Avenue east approach in the decision zone, where distraction could result in red light running which in turn could result in crashes involving pedestrians, cyclists, and / or heavy vehicles. They equate this outcome to a **more than minor** adverse effect.

Conclusion on transport effects

50. I adopt Ms Gregory's findings for the purposes of my assessment and accordingly conclude that the adverse transport safety effects associated with the proposal, particularly the east facing billboard, will be **more than minor** and **potentially significant**. As mentioned previously, digital billboards are specifically designed to attract people's attention, and I agree that it is not just a matter of *confusion*, but also *distraction*. The Grove / Hagley / Lincoln / Moorhouse intersection is one of the busiest intersections in Christchurch, with competing distracting elements already present in the form of existing digital billboards at 60 Grove Road and 26 Moorhouse Avenue, which talks to potential cumulative effects. As evidenced by Turner (2016), research shows that digital displays significantly impact on our detection of and response to hazards and that the result of this is sometimes a crash.

51. I caution reliance on the "other billboard locations" and the ARRB study referred to in the applicant's assessment. It is not known whether the reported nil impact on driver performance is comparable to the proposal and its surrounds (in terms of the layout of the intersection, the high volumes of traffic movements it carries, and the positioning of the digital display in relation to key decision zones), which I consider to be particularly sensitive to change. In my view, there is not the level of detail required in Stantec's assessment for me to rely upon and to overcome the issues raised by ViaStrada.

change reduces to 1 in 8, i.e. one-eighth of truck drivers (about 30 truck drivers per day3) will be subjected to this potential confusion while in the decision zone.

52. As expressed by Ms Gregory, the adverse transport safety effects associated with the permitted baseline scenarios are considered to be less concerning given the permitted billboards would be smaller in size, further away from the intersection, and not in-line with critical traffic signal faces.

Character and amenity effects

53. There are a number of matters of discretion which lend consideration to the character and amenity effects associated with billboards. These relevantly include consideration of resultant impacts on amenity values, character, visual coherence, and heritage values of the surrounding area, residential activities, and heritage items / open spaces. They also consider the potential for visual clutter in associated with other existing signage in the environs. The matters recognise that the character and amenity effects associated with digital displays are typically greater than that of their static counterparts.

54. A number of submitters have raised concerns associated with the visual effects of the proposed digital displays as viewed from Hagley Park and the nearby apartment building at 420 Hagley Avenue.

Applicant's assessment

55. The application also included an urban design assessment prepared by Richard Knott of Richard Knott Limited. This was updated following preliminary comments from Council that the proposal would result in adverse effects on the Hagley Park shared path, residents of the apartment building at 420 Hagley Avenue, and in an overall cumulative sense. The latest version of Mr Knott's assessment is dated 27 August 2020.

56. Mr Knott spends some time detailing the characteristics of the site and the surrounding environment. Mr Knott similarly considers the area south of Moorhouse Avenue to be characterised by low amenity. He does not discuss the quality of Hagley Park nor the current amenity afforded to residential activities along Hagley Avenue. He provides a list of existing billboards in the surrounding area. These are all captured in my breakdown in **Appendix E**, although notably does not include the recently constructed double-sided digital billboard at 26 Moorhouse Avenue.

57. In his assessment Mr Knott goes on to describe the visual catchment of the proposal, which he originally considered to be limited to east and west along Moorhouse Avenue. Following preliminary comments from Council, viewpoints from the shared path in Hagley Park and the apartment building at 420 Hagley Avenue were included. Mr Knott does not consider there to be a visual catchment of the proposal along Lincoln Road or Hagley Avenue given the location and positioning of the billboards.

58. Mr Knott has used the following scale of visual effects in assessing each viewpoint. For context, Mr Knott considers a "Very Low" effect and a "Low" effect on this scale to equate to a "less than minor" and "minor" effect respectively (in terms of RMA terminology).

Scale of Effect	Description of Effect
Extreme	Total loss of the existing character, distinctive features or quality of the landscape resulting in a complete change to the landscape or outlook
Very high	Major change to the existing character, distinctive features or quality of the landscape or a significant reduction in the perceived amenity of the outlook
High	Noticeable change to the existing character or distinctive features of the landscape or reduction in the perceived amenity or the addition of new but uncharacteristic features and elements
Moderate	Partial change to the existing character or distinctive features of the landscape and a small reduction in the perceived amenity
Low	A slight loss to the existing character, features or landscape quality
Very low	The proposed development is barely discernible with little change to the existing character, features or landscape quality
Negligible	The proposed development is barely discernible or there are no changes to the existing character, features or landscape quality

59. Mr Knott's assessment of each viewpoint can be summarised as follows:

View west along Moorhouse Avenue:

- 50m - **Low**
- 100m - **Very Low**
- 200m - **Negligible**

View east along Moorhouse Avenue:

- 50m - **Low**
- 100m - **Very Low**
- 200m - **Negligible**

View from Hagley Park shared path (adjoining Hagley Avenue):

- 50m - **Low**
- 100m - **Very Low**
- 200m - **Negligible**

View from Hagley Park shared path (adjoining Moorhouse Avenue):

- 50m - **Low**
- 100m - **Very Low**
- 200m - **Negligible**

View from apartments at 420 Hagley Avenue: **Low**

60. In most cases, Mr Knott considers that the proposed billboards will not appear out of place or out of scale within the commercial/industrial context and the surrounding built environment. With respect to Hagley Park shared path (adjoining Hagley Avenue), Mr Knott considers at closer distances the billboard will be viewed against the backdrop of the existing canopy and buildings on the site and in the surrounds. At further distances, he considers that the trees and the apartment building at 420 Hagley Avenue will dominate the view, particularly during the spring and summer months when the trees will be covered in leaves. With respect to the apartment building, Mr Knott comments that those apartments which have views towards the application site and the proposed billboards either have their windows obscured by the existing billboard on the site, or the sill height of the unobscured windows is at such a height that there is "*very limited opportunity for occupiers to view the proposed billboard from them*". Mr Knott adds

that, again, the proposed billboards will be seen against the backdrop of the existing canopy and buildings on the site and in the surrounds.

61. Overall, Mr Knott considers the proposal has been designed to sit comfortably within the context and that it will become an integrated element of the site and the surrounds. Any associated adverse effects on the character and amenity of the area is considered to be minimal. Mr Knott adds that the proposed levels of luminance at night-time (250 candelas/m²), image dwell time (16 seconds) and dissolve between images (0.5 seconds) will accord with accepted best practice.

Council's assessment

62. The application was sent to David Hattam, Senior Urban Designer at Council, for specialist advice. Mr Hattam's memo is attached as **Appendix C**.

63. Mr Hattam begins by explaining the difference in methodology of visual assessment undertaken by Mr Knott and himself. He explains that Mr Knott has provided a visual assessment which grades the scale of visual impact using a seven point scale, applied to a selection of viewpoints. Mr Hattam considers this to be an appropriate methodology. For his own assessment, Mr Hattam has used the seven point scale provided by the New Zealand Institute of Landscape Architects (included below). I note that recent case law[6] has established that a "moderate" visual amenity effect on the scale referred to by Mr Hattam equates to a "more than minor" effect in terms of RMA terminology.

Extreme: Total loss to key elements / features / characteristics of a highly valued townscape, i.e. elements considered to be totally uncharacteristic when set within the attributes of the receiving townscape / urban context such that it amounts to complete change of highly recognised townscape / urban values.

Very High: Major modification to most key elements / features / characteristics of a valued townscape / urban context, i.e. introduction of elements considered to be largely uncharacteristic with the attributes of the receiving context such that little of the pre-development character remains.

High: Major modifications to key elements / features / characteristics of the baseline, i.e. introduction of elements considered uncharacteristic with the attributes of the receiving context such that the pre-development character remains evident but materially changed.

Moderate: Partial loss of or modification to one or more key elements / features / characteristics of the baseline, i.e. introduction of new elements may be prominent but not necessarily uncharacteristic when set within the attributes of the receiving context.

Low: Minor loss of or modification to one or more key elements / features / characteristics of the baseline, i.e. new elements may not be prominent or uncharacteristic when set within the attributes of the receiving context.

Very Low: No material loss of or modification to key elements / features / characteristics of the baseline, such that the pre-development context or view and/or introduction of elements are not uncharacteristic and absorbed within the attributes of the receiving context.

Negligible: Very minor or no loss of or modification to key elements/ features/ characteristics of the receiving context.

64. Mr Hattam has taken a similar approach to Mr Knott in assessing the visual effects of the proposed billboards from various viewpoints in the surrounds. These include both west and east along Moorhouse Avenue, from the apartments at 420 Hagley Avenue, and from the shared paths in Hagley Park (adjoining Moorhouse Avenue and Hagley Avenue).

[6] *Trilane Industries vs Queenstown Lakes District Council* (2020)

65. Mr Hattam's assessment of each viewpoint can be summarised as follows:
View west along Moorhouse Avenue: **Low**
View east along Moorhouse Avenue (including from the shared path in Hagley Park): **Low**
View from apartments at 420 Hagley Avenue: **Moderate**
View from Hagley Park shared path (adjoining Hagley Avenue): **High**

66. With respect to Moorhouse Avenue, Mr Hattam agrees that the effects will be low as a result of the context, both in terms of the existing and anticipated environments. With respect to the apartments at 420 Hagley Avenue, Mr Hattam comments that Mr Knott's assessment does not consider the four upper-floor apartments which will have direct views of the proposed east facing billboard. He notes that the billboard will be located approximately 150m from the apartments, a distance which he considers would be prominent, acknowledging that this is within a low quality setting. Mr Hattam adds that the impact of the transitions will increase the degree of impact by drawing attention to the digital display. He highlights that the proposed billboard will be larger and closer to the proposed apartments than anticipated (by the District Plan). He acknowledges that the design of the proposed structure would be better integrated into the built environment than the permitted scenario but forward by the applicant, and therefore would be more visually coherent in that sense. On this basis he considers the effects to be **Moderate** from this viewpoint.

67. With respect to the shared path in Hagley Park (adjoining Hagley Avenue), Mr Hattam has undertaken a detailed assessment of the park environment and the related effects. Mr Hattam highlights that the shared path, while situated on the fringe of Hagley Park, holds significant heritage and amenity value for the public as a high quality recreation space. Users of this space include large numbers of commuting pedestrians and cyclists and people using it for recreation. Mr Hattam comments that both groups of users will be attracted to the high quality of the environment and would be sensitive to changes. He considers the park environment which the path passes is of high quality throughout, and that this quality increases when adjoined by residential surroundings and the low traffic environment along Hagley Avenue. Of relevance to the proposal, he highlights that a particular property of the view is the way that it is funnelled through the trees, which directs the viewers' attention to the end point, which terminates the view. The proposed east facing billboard will be located at the end of this viewpoint, directly facing it. He considers that the billboard will be the focus of attention at closer distances (50-300m) and that it will be visible in all seasons. On this basis he considers the effects to be **High** from this viewpoint.

68. Mr Hattam also considers cumulative effects of the proposal in combination with existing digital billboards in the surrounds. These include the aforementioned billboards at 60 Grove Road, 420 Hagley Avenue and 26 Moorhouse Avenue. Mr Hattam provides the following salient explanation as to why digital billboards increase cumulative effects as compared to their static counterparts.

"*…digital billboards are visible in peripheral vision due to transitions, which appear as movement. This means that they attract attention when they would not otherwise be visible. Human peripheral vision spans an arc of roughly 190 degrees [3]. Within the central 60 degrees, more detailed vision occurs, including symbol and colour recognition, increasing progressively towards the central 2 degrees of fovial (detailed) vision [2].*

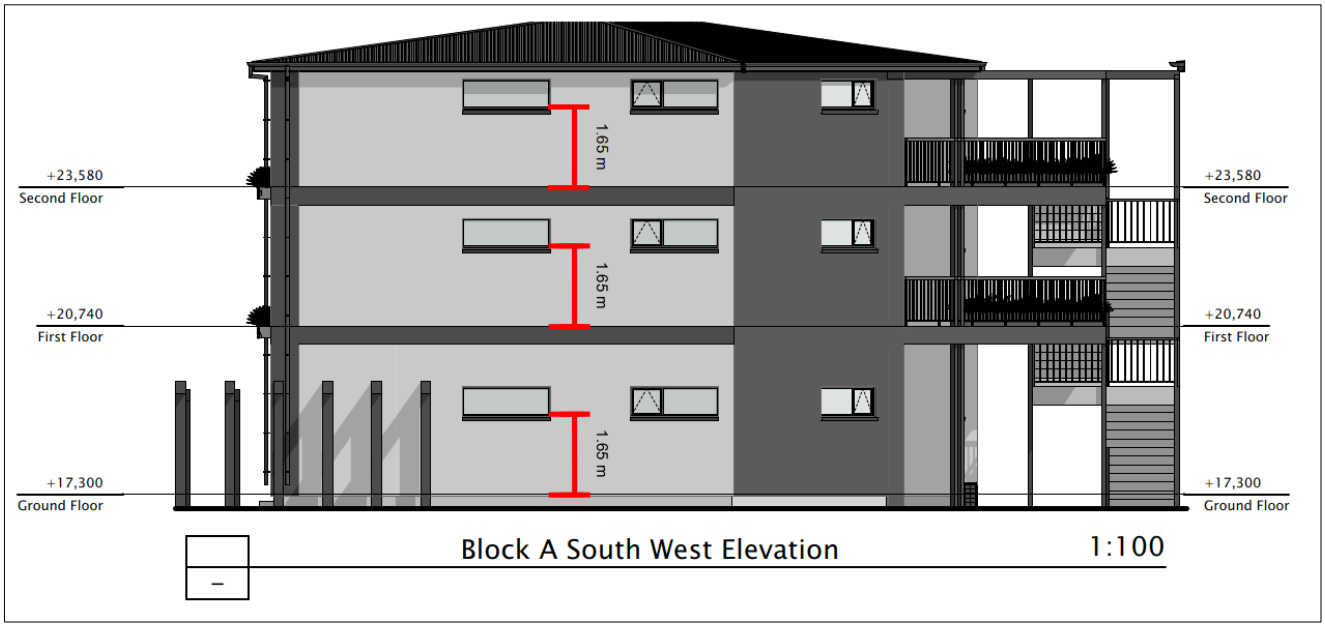
For this reason, digital billboards are visible and distracting where a static billboard would either be imperceptible, or blend into the background (outside of the central 60 degrees)."

69. Of note, Mr Hattam considers the cumulative effects as viewed from the east on Moorhouse Avenue and from the apartments at 420 Hagley Avenue will be **Moderate**. This is given the close proximity of the proposed east facing billboard to existing digital billboards in the immediate surrounds. He considers that the close proximity adds to the perception of visual clutter and distraction, and that even when the billboards are not viewed in the same line of sight, it would be difficult for people to avoid looking at digital signage within a significant area.

Conclusion on character and amenity effects

70. I adopt Mr Hattam's findings for the purposes of my assessment and accordingly conclude that the adverse character and amenity effects associated with the proposal, particularly the east facing billboard, will be **more than minor**. I agree with Mr Hattam that Mr Knott has not directly addressed cumulative effects. I add that Mr Knott's assessment does not discuss the difference in effects between a static and digital display, which, as discussed by Mr Hattam, are clearly different in that digital displays are more likely to attract people ones attention. With respect to the sill height of the windows along the southwest façade of the apartment building at 420 Hagley Avenue, on review of the plans approved through RMA/2017/1659 I can confirm that the sill height of these windows is approximately 1.65m (as shown below). I add that the proposed east facing billboard is likely also to be visible from the stairs, front doors and balconies of additional apartment units situated to the south of 420 Hagley Avenue.

71. In paragraph 48 of the updated application document it is stated that "*…whilst the site is located opposite South Hagley Park, the rules in the Industrial General zone permit billboards along the whole Moorhouse Avenue frontage opposite the park, and there are no special rules or restrictions relating to billboards in this location*". I would like to clarify that, as mentioned previously, any billboard is not permitted within 50m of the Grove / Hagley / Lincoln / Moorhouse signalised intersection (see **Appendix F** for illustration of this setback). A billboard set back the compliant distance from the signalised intersection is unlikely to be viewable at the end of the Hagley Park shared path (adjoining Hagley Avenue) to the same extent.



Conclusion with respect to effects on the environment

72. In summary, it is my opinion that the proposal will result in adverse effects as they related to character and amenity that are **more than minor**, and in the case of transport, **potentially significant**.

Relevant Objectives, Policies, and other Provisions of a Plan or a Proposed Plan (S.104 (1)(b))

73. Regard must be had to the relevant objectives and policies in the Christchurch District Plan, which are attached in **Appendix E**.

6.8.2.1 Objective - Signage

a. Signage collectively contributes to Christchurch's vitality and recovery by:

i. supporting the needs of business, infrastructure and community activities;

ii. maintaining public safety; and

iii. *enhancing the visual amenity values and character of the surrounding area, building or structures.*

6.8.2.1.1 Policy - Enabling signage in appropriate locations

a. *Enable signage:*
   i. *as an integral component of commercial and industrial environments, strategic infrastructure and community activities throughout the Christchurch District; and*
   ii. *that is necessary for public health and safety and to provide direction to the public.*

6.8.2.1.2 Policy - Controlling signage in sensitive locations

a. *Ensure the character and amenity values of residential, open space and rural zones are protected from adverse visual and amenity effects from large areas or numbers of signs, or off-site signs within these zones.*

6.8.2.1.3 Policy - Managing the potential effects of signage

a. *In considering Policies 6.8.2.1.1 and 6.8.2.1.2, ensure that the size, number, height, location, design, appearance and standard of maintenance of signs:*
   i. *do not detract from, and where possible contribute to, the character and visual amenity of the surrounding area and public realm;*
   ii. *integrate within the façade of the building, do not detract from the integrity of the building design, and maintain the building as the primary visual element;*
   iii. *are in proportion to the scale of buildings and the size of the site; and*
   iv. *enhance the Central City.*

6.8.2.1.6 Policy - Managing off-site signage

a. *Limit off-site signs in the sensitive zones specified in Policy 6.8.2.1.2 and to enable such signage where it:*
   i. *is compatible with the surrounding environment and is located within a commercial or industrial context;*
   ii. *is appropriately maintained;*
   iii. *will not cause or contribute to visual clutter and other cumulative adverse effects; and*
   iv. *is consistent with the outcomes sought in Policy 6.8.2.1.3.*

74. Objective 6.8.2.1 recognises that signage contributes to Christchurch's vitality, and that it supports the needs of business/infrastructure/community activities, and maintains public safety. However, in addition, it also seeks that signage enhances the visual amenity values and character of the surrounding area. This is evidenced in Policies 6.8.2.1.2, 6.8.2.1.3 and 6.8.2.1.6 where large areas or numbers of signs (including off-site signs) are sought to be limited in sensitive zones such as residential and open space zones. This includes ensuring that the character and amenity values of these sensitive zones are protected from the adverse visual and amenity effects from signage.

75. As outlined above, on the advice of Mr Hattam, I consider the adverse character and amenity effects associated with the proposal, particularly with respect to the proposed east facing billboard, will be **more than minor**. This is particularly relevant with respect to views from the Hagley Park shared path (adjoining Hagley Avenue), which is recognised as being a high quality environment, and the apartments at 420 Hagley Avenue, which as residential activities are sensitive to the effects associated with digital displays.

76. As mentioned by Mr Hattam, the adverse effects associated with the permitted baseline scenarios presented by the applicant (see **Appendix F**) would be less concerning as the billboards would be smaller and situated further away from other existing billboards and the apartment building, and as the proposed east facing billboard would be unlikely to be viewable at the end of the shared path to the same extent as is proposed.

6.8.2.1.4 Policy - Transport safety

a. *Ensure that signs do not cause obstruction and/or distraction for motorists and pedestrians and other road users.*

77. The applicant has not directly touched upon this policy in their updated application document.

78. I consider the threshold in this policy to be relatively high with use of the word “ensure”. As demonstrated in the preceding assessment, it cannot be ensured that the proposed digital billboards, particularly the east facing billboard, will not cause distraction for road users. For this reason I consider the proposal to be contrary to this objective.

79. As mentioned previously, and as advised by Ms Gregory, the adverse transport safety effects associated with the permitted baseline scenarios are considered to be less concerning given the permitted billboards would be smaller in size, further away from the intersection, and not in the same field of view with critical traffic signal faces.

Conclusion

80. After considering the relevant objectives and policies it is my conclusion that the application is contrary to these. The proposal will not ensure that signs do not cause distraction for road users. However, if the decision-maker was satisfied that research and crash data from sites before and after installation of LED billboards on the adverse transport safety effects associated with digital billboards is inconclusive (noting that this has not been demonstrated in the application), I still consider that the proposal does not find support within this policy framework with respect to character and amenity effects, specifically as viewed from the Hagley Park shared path (adjoining Hagley Avenue) and the apartment building at 420 Hagley Avenue. In this regard, I have concluded that the proposal would be contrary.

Other relevant Statutory Documents (S.104 (1)(b))

81. Statutory documents of relevance to this application include the NESCS.

82. The relevance of the NESCS to this application is discussed above. The applicant has confirmed that no material will be removed from the site and that the volume of earthworks will be permitted under Regulation 8 of the NESCS.

Relevant Other Matters (S.104 (1)(c))

Recovery Plans and Regeneration Plans

83. Section 60(2) of the Greater Christchurch Regeneration Act 2016 requires that decisions and recommendation on resource consent applications are not inconsistent with Recovery Plans and Regeneration Plans. For restricted discretionary activities, Section 60(5) states that such plans are a matter over which discretion is restricted and that section 87A(3) of the RMA applies accordingly.

84. There are no Recovery Plans or Regeneration Plans relevant to this application.

Precedent effect/Plan integrity

85. I have concluded above that the application is contrary to the relevant objectives and policies and therefore I consider issues of precedent and plan integrity. However, in my experience applications for digital billboards are sufficiently different from one another (e.g. location, design, operational parameters, sensitivity of the surrounding environs) such that each can be considered on its own merits. In addition, the application holds restricted discretionary activity status overall.

86. Given these factors, I consider this application is unlikely to give rise to any significant precedent effect which would challenge the integrity of the District Plan.

Relevant Non-statutory Documents

Boffa Miskell - *LED Billboard Research: Technical Review of Visual Effects* (2016)

87. This technical review was commissioned by the Council in response to a number of applications for installation of billboards that were being processed at the time. Council sought guidance and information from Boffa Miskell on the potential effects of these billboards. Mr Hattam has assessed the application against this technical review and found it to be inconsistent with its recommendations, particularly with respect to the proposed billboards' proximity to sensitive environments (Hagley Park and residential activity within apartment building at 420 Hagley Avenue).

AS/NZS 4282:2019

88. This standard was prepared by the Joint Standards Australia/New Zealand Committee and its objective was to provide a common basis for assessment of the likely effects of developments that involve the provision of outdoor lighting. I understand that the proposed image display time accords with AS/NZS 4282:2019[7]. I also understand that the maximum luminance levels specified below in the recommended conditions section of this report are in accordance with AS/NZS 4282:2019.

MWH Global - *Digital and Projected Advertising Signs: Road Safety Considerations and Consent Conditions* (2016)

89. This report was commissioned by the Council, and is specific to road safety conditions. They relevant takeaways from this research include:

- When DPADs are located close to key decision points (e.g. intersections) they should be located outside of the cone of vision;
- Larger 'supersites' (signs between 24m² and 45m²) should not be located nearby another 'supersite' and should not be located at key decision points (i.e. within the cone of visibility of vehicles approaching intersections). In addition, off-premise signs should be separated by 300m.
- Images displayed should conform to the 'NZ Advertising Standards Authority Code of Ethics', shall not be moving images, and shall be displayed for a minimum period of between 8-15 seconds.

As mentioned previously, ViaStrada have advised that the proposed east facing billboard is located within the cone of visibility of vehicles approaching the intersection. The proposed billboards are located in close proximity and within 300m of other 'supersites'. Lastly, the conditions offered by the applicant accord with the image controls recommended by MWH Global.

Part 2 of the Act

90. The matters outlined previously are subject to Part 2 of the Act which outlines its purpose and principles.

91. The use, development and protection of resources is to be sustainably managed in a way that enables people and communities to provide for their social, economic and cultural wellbeing and their health and safety, while avoiding, remedying or mitigating any adverse effects of activities on the environment.

92. The Christchurch District Plan has recently been reviewed. Its provisions were prepared under the higher order planning documents and, through its preparation and the process of becoming operative, have been assessed against the matters contained within Part 2.

[7] Minimum image display time recommended in AS/NZS 4282:2019 (3.3.5.4) is 10 seconds.

93. Taking guidance from recent case law[8], the District Plan is considered to be the mechanism by which the purpose and principles of the Act are given effect to in the Christchurch District. It was competently prepared via an independent hearing and decision-making process in a manner that appropriately reflects the provisions of Part 2. Accordingly, no further assessment against Part 2 is considered necessary.

Conclusion

94. After considering the actual and potential effects on the environment of allowing the application, it is my conclusion that adverse effects on the environment will be **more than minor** and **potentially significant** as they relate to urban design and transport.

95. In my opinion this proposal is contrary to the objectives and policies of the District Plan for reasons discussed previously.

96. Having considered all of the relevant matters under Sections 104 and 104C, it is my opinion that consent should be **declined**.

Sections 108 and 108AA – Conditions

97. Should the decision-maker be of a mind to approve the application, I have included a set of possible consent conditions below.

General

a. Any content displayed on the digital screen billboard shall comply with the Advertising Standards Authority Code of Practice and the Broadcasting Act 1989.

b. The colours and imagery displayed on the digital screen billboard must not confuse road users. Any content displayed on the digital screen billboard shall not contain any New Zealand road signs that are specified in the Traffic Control Devices (TCD) Manual or the Manual of Traffic Sign and Marking (MOTSAM). Additionally, the colours displayed on the digital screen billboard must not be primarily red, orange or green in colour and shall not include depictions of roads.

c. There shall be no sequencing of consecutive advertisements.

d. There shall be no sound equipment associated with the digital screen billboard and no sound equipment is to be installed as part of the digital screen billboard.

e. The digital screen billboard shall not be made of a material that is reflective to other light sources such as vehicle headlights.

f. Prior to the erection of the billboard, a written maintenance programme, in the form set out in Appendix 6.11.16, shall be prepared by the operator/provider and submitted to the Christchurch City Council via email to rcmon@ccc.govt.nz, Attention: Team Leader Compliance and Investigations.

g. In the event of digital screen billboard failure, the digital screen billboard shall default to either black, white or switch off.

Illumination

h. The light spill generated by the digital screen billboard shall not exceed 4.0 lux (horizontal or vertical) of light when measured or calculated 2m outside of the application site.

i. The digital screen shall incorporate lighting control to adjust brightness in line with ambient light levels.

[8] *R J Davidson Family Trust v Marlborough District Council* [2018] NZCA 316

j. The billboard shall not exceed the following luminance values:
   i. Daytime: maximum of 3000 cd/m^2;
   ii. Nighttime: 250 cd/m^2 maximum and 150 cd/m^2 maximum average.
   iii. To undertake the work required by this condition, the consent holder shall engage an independent lighting practitioner to record and confirm luminance readings of the billboard at least three times, including one recording at midday, one recording during the hours of darkness, and one recording during morning or early evening.
   iv. The consent holder shall submit a luminance certification report to the Christchurch City Council via email to rcmon@ccc.govt.nz, Attention: Team Leader Compliance and Investigations, within thirty working days following the commencement of the display going live.

   Note: Maximum average luminance and maximum luminance is to be measured in accordance with Section 3.3.5.5 of AS/NZS 4282:2019.

Content displayed

k. Only static images and messages are to be displayed on the digital screen billboard (i.e. no animation, flashing, scrolling, intermittent or full-motion video shall be displayed). These shall have a minimum duration of 16 seconds.

l. The image display time shall be increased to a minimum of 10 seconds during the morning (0700-0900) and afternoon (1600-1800) peak periods.

m. There shall be no transitions between static images, apart from either:
   i. An immediate change; or
   ii. A maximum cross-dissolve period between images of 0.5 seconds.

n. Between transitions there will be no flashing or blinking.

o. No more than one advert shall be displayed on the digital screen billboard at any one time.

Section 128 review

p. In accordance with Section 128 of the Resource Management Act 1991 the Christchurch City Council may serve notice on the Consent Holder of its intention to review, in whole or in part, the conditions of this consent to deal with any adverse effect on the environment which may arise from the exercise of this consent and which it is appropriate to deal with at a later time.

   The purpose of this condition is to address potential adverse transport (safety) effects.

Recommendation

98. I have assessed this application to establish two 29.2m² digital billboards at 399 Lincoln Road, Addington. Having considered all the matters relevant to this application, I recommend that this application be **declined**.

Matthew Klomp
Planner
Resource Consents Unit
Christchuch City Council

Reviewed by:

Andrew Long
Senior Planner
09/11/2020 02:31 pm

Appendix A - Summary of submissions
Appendix B - Traffic memo prepared by Ms Gregory
Appendix C - Urban design memo prepared by Mr Hattam
Appendix D - Breakdown of existing, consented and permitted billboards
Appendix E - Key District Plan provisions
Appendix F - Permitted baseline scenarios

SUMMARY OF SUBMISSIONS
LIMITED NOTIFIED RESOURCE CONSENT APPLICATION RMA/2020/702
399 LINCOLN ROAD, ADDINGTON

#	NAME	POSITION	WISH TO BE HEARD	JOINT SUBMISSION	REASON
1	A & H Ashby	Support	N	N	[No reason given]
2	M De Wit	Support	N		"*It will create jobs.*"
3	Gull NZ Ltd	Support	N	N	"*Fully support this application as it has no effect on our business operating from the same property.*"
4	V Kocon	Support	N		"*It will create jobs.*"
5	M Apse	Oppose	N		Reasons for submission: "*Digital billboards are visually unappealing; their sheer size dominates the skyline, and they reduce the overall amenity of an area. Also, they are distracting for drivers.*" Decision Council should make: "*Reduce the overall number of digital billboards.*"
6	L Chandler	Oppose	Y	Y	Specific part(s) of application that submission relates to: "*Part 45(b) of the application: the billboard is architecturally designed and will become an integral component of the site and wider commercial environment and is not located in a sensitive zone.*" Reasons for submission: "*There is no such thing as "architecturally designed" when it comes to a billboard. It's a LED Screen. Nor will it become "an integral component" now or ever. Stupid buzzwords to wow council staff.*" Decision Council should make: "*Decline it. Drivers do not need a distraction on a high profile site.*"
7	C Cooper	Oppose	N		Specific part(s) of application that submission relates to: "*Traffic safety Amenity.*" Reasons for submission: "*Another billboard will cause even more driver distraction which will lead to increased traffic congestion and incidents. Indeed, it's literally the point of billboards to catch drivers attention. The local amenity of the parks etc will be impaired by the visual blight of the billboard.*" Decision Council should make: "*Preferably decline the application Alternatively reduce the size of the installation.*"
8	P Garlick	Oppose		Y	Specific part(s) of application that submission relates to: "*Both screens being established at 399 Lincoln Road. They will face the front of my apartment causing too much light at night time and will destroy the view of the park. They will look out of place and may lower the price of apartment.*"

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					Reasons for submission: "*The screens will look out of place, ruin the natural look of the area and look tackie (sic).*" Decision Council should make: "*Not to give or grant permission for the screen billboards to be erected.*"
9	M Kűbuch	Oppose	N		"*Lighting and movements of the add's.*"
10	S Rehfeldt	Oppose	N		"*Think that will disturb our appartment with the light of it and the movements of the add's.*"
11	C Shaw	Oppose	N	Y	Specific part(s) of application that submission relates to: "*Location of the screens and lighting levels.*" Reasons for submission: "*I am concerned of the light pollution and visibility of the screens from my apartment on Hagley Avenue. The proposed positioning of the screens potentially means one of these is visible when I am sitting on my balcony and as such this creates a disruption from the natural ambiance of the park. In addition, I do not think these should be operating during the night hours due to the unnecessary light pollution on residential properties.*" Decision Council should make: "*Only approve the resource consent if the screens are positioned in a way which means they are not visible from the balcony of any of the apartments located on Hagley Avenue and that light pollution is minimised.*"
12	Shamus Holdings Ltd	Neutral	N	N	[No reason given]

Level 1, 284 Kilmore Street
PO Box 22 458, Christchurch 8140, New Zealand
T: 03 366 7605 E: info@viastrada.nz

MEMORANDUM

To: Christchurch City Council

Attn: Matthew Klomp

Date: 2 June 2020

Re: Peer review of Digital Billboard RMA/2020/702 - 399 Lincoln Road, Addington

Quality Assurance Statement		
This document has been prepared for the benefit of Christchurch City Council. No liability is accepted by ViaStrada Ltd, or any of its employees or sub-consultants with respect to its use by any other person.	Prepared by:	Megan Gregory
	Reviewed by:	Axel Wilke
	Project Number:	1077-78
	Project Name:	Lincoln Road Digital Billboard peer review
	Version:	02 Final – amendment 1

1 Background

Christchurch City Council has received an application to erect two digital billboards at 399 Lincoln Road, Addington; this property is on a corner at the Grove / Hagley / Lincoln / Moorhouse signalised intersection, and the billboards will be approximately 150 m from the railway level crossing on Lincoln Road.

The proposed two digital billboards do not comply with Rule 6.8.4.1.1 P15 in the District Plan because:

- They each exceed 18m² in area (29.2m²);
- They will be located within 50m of a signalised intersection.

The proposal will comply with the remainder of the requirements set out in P15.

The matter of discretion associated with this rule breach relevant to a traffic safety assessment is:

a. *Whether the extent of the impacts of the billboard are increased or lessened due to:*
   i. ***The potential of the billboard to cause distraction or confusion to motorists in their observance of traffic conditions, directions or controls***.

In addition to the above, the key District Plan signage policy relating to transport safety is included below.

> **6.8.2.1.4 Policy - Transport safety**
>
> a. Ensure that signs do not cause obstruction and/or distraction for motorists and pedestrians and other road users.

ViaStrada has been commissioned to peer review the application, including the Integrated Transport Assessment (ITA) and comment on the District Plan non-compliances indicated above. In addition, ViaStrada's assessment is also to consider the permitted baselines presented by the applicant in pages 16, 32 and 33 of the application document; these alternatives would be permitted under the District Plan and not require resource consent. At the request of further information regarding sightlines (see section 2.3.1) the applicant provided an additional document, "Lincoln Road Billboard – CCC RFI", dated 1 May 2020 and provided to ViaStrada via CCC on 25 May 2020; this has also been considered and is referred to as the "further information memo". Further mock-ups of the permitted baseline scenarios were also provided.

Section 2 of this review follows the structure of the ITA, commenting on the sections where ViaStrada is in disagreement with the ITA, or considers it has failed to address certain issues. Section 3 summarises the effects ViaStrada considers will result from the proposal, in respect to the traffic-related matter of discretion stated above.

2 Review of ITA

2.1 Travel patterns

2.1.1 Crash history

The ITA details the site's crash history, noting a trend of rear-end crashes due to drivers failing to notice the vehicle in front slowing; ViaStrada considers that the introduction of new digital billboards in the vicinity of the intersection will increase the opportunity for driver distraction and therefore intensify this crash trend.

2.2 Design criteria

2.2.1 Intersection operation (not covered in ITA)

The ITA does not include the traffic signal plan, nor mention any consideration of how the intersection operates, or the presence of the major cycle route crossing or staged pedestrian crossing.

The traffic signal plan ViaStrada have used is provided in Appendix A, with the following excerpts detailing the intersection detail (including signal pole numbers) and phasing diagram:

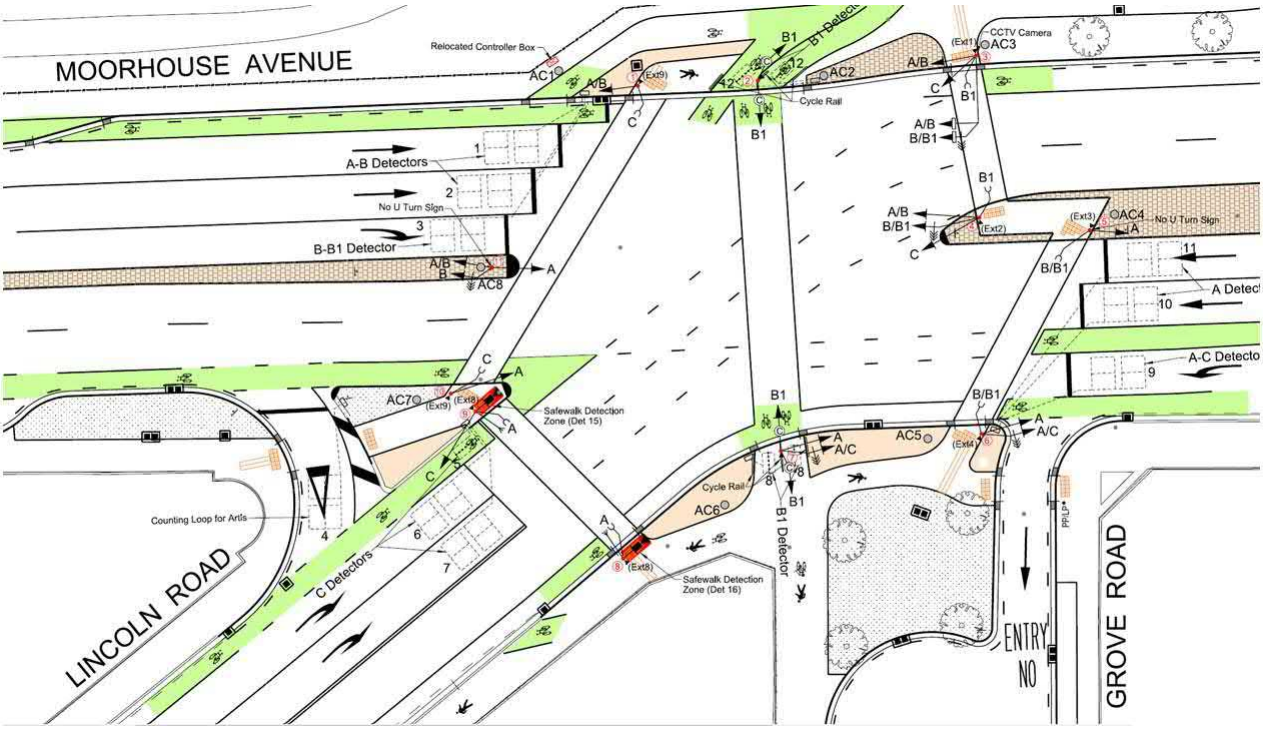


Figure 2-1: Intersection detail with pole numbers (in red circles)

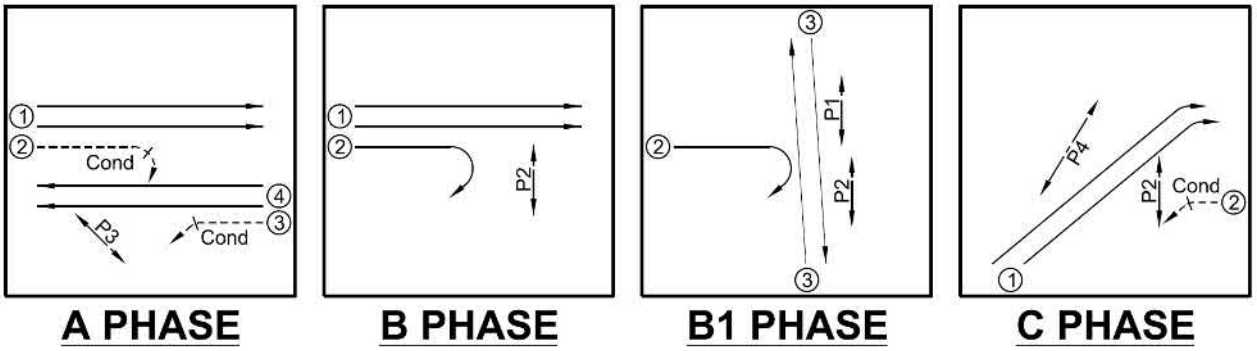


Figure 2-2: Intersection phases (normal sequence is ACB)

ViaStrada are aware that changes will be made to the intersection along with improvements to Lincoln Road bus priority measures; the current proposed scheme is given in Figure 2-3, it is not expected that the layout will change in the detailed design stage. It is intended that the project will be constructed in early 2021.

Figure 2-3: Proposed intersection scheme for Lincoln Rd bus priority project

2.2.2 Critical traffic movements

The ITA states (p6): "*It is considered that the most critical part of the approach in terms of the potential for driver distraction is the decision zone*" and thus confines its assessment to approaching drivers. ViaStrada considers that it is also important to assess drivers waiting at the limit line and those travelling through the intersection with respect to the east-facing billboard which is located on the far side of the intersection.

The ITA provides vehicle volumes, but does not provide data on pedestrian or cycle movements. The intersection includes a crossing for a Major Cycleway, and is bordered by Hagley Park with the netball courts being in close proximity, thus it experiences high volumes of cyclists and pedestrians.

2.3 East-facing billboard

2.3.1 Drivers approaching the intersection

The ITA demonstrates that the east-facing billboard will be aligned horizontally with the primary and advance primary signal faces (i.e. poles 6 and 7 on Figure 2-1 of this review), but that these will be visible above the billboard for an eastbound driver entering and travelling through the decision zone. Note that the ITA focuses on drivers approaching in the left turn lane on the Moorhouse Avenue east approach, but the sightline diagrams show that this also applies to drivers in the central through lane, who may also rely on the signal faces on poles 6 and 7 (whilst also having the option of looking at the dual primary and tertiary poles).

ViaStrada observed that the ITA's sightline assessment did not account for truck drivers, who have a higher eye height. The ITA shows that the proportion of heavy vehicles in the Moorhouse Ave east left turn approach is 5.6% in the morning peak and 4.4% in the evening peak – these proportions are not negligible and any crash that did result involving a truck would be more likely to have serious consequences.

The further information memo shows that the signal faces on poles 6 and 7 will be at least partially in line with the billboard for a truck driver in the decision zone, but the memo's authors try to dismiss this by saying: *"given that the surrounding backing board is black, the visibility of the aspect is unlikely to be confused with*

the content of the billboard." This seems contradictory to the importance that the ITA initially placed on the sightline assessment; the conclusion at the end of the ITA hinges on the fact that the billboard does not align with the signal faces for a car driver within the decision zone[1]. ViaStrada considers that it is critical that the billboard should not be in the same line of sight as the traffic signals for a driver in the decision zone, and that this would be part of the reason for the District Plan's rule regarding proximity of a billboard to the intersection.

The ITA notes a number of factors regarding the relative conspicuity of the signals and the billboard:

- *The signal aspects all have standard black backing boards designed to ensure the signals stand out regardless of the background environment.*
- *The signal aspects have bright LED lights, which will be brighter than background digital billboards.*
- *The significant distance between the aspects and billboard allows for a changing relative view and size between the aspects as a driver travels through the decision-making zones closer to the intersection. Most significantly, the relative position of the signal aspect rises above the billboard as the driver approaches the limit line which reduces any potential for conflict.*
- *The billboard is a completely different shape to the signal aspects, and the signal aspects have long yellow poles as an additional identifier, consistent across all traffic signals in New Zealand.*
- *The traffic signalised intersection has built-in redundancy, and in this case, the secondary signal aspect remains visible at all times to the right of the billboard.*

The ITA concludes: "*Based on these observations, and the above matters, it is considered that the proposed billboard sitting in the background is unlikely to cause drivers confusion in identifying the traffic signal aspects*."

However, ViaStrada considers that this conclusion ignores the fact that advertising billboards are specifically designed to attract people's attention; it is not just a matter of *confusion*, but one of *distraction*, and the following factors should be considered:

- Whilst being farther from approaching drivers than the traffic signals, the billboards will still occupy a much greater proportion of the drivers' field of vision, especially since they are larger than the permitted size.
- The images on the billboards will also change frequently and the billboard operator would have no way of ensuring that the billboard does not change images around the same time the signals for approaching drivers change from green to yellow.
- Whilst conditions may be imposed to prevent the billboard from using the colours used in traffic signals, there may still be issues with the billboard colours not sufficiently contrasting with the signal colours – e.g. a pink billboard may not contrast sufficiently with a red signal.
- Traffic signals, despite being designed to stand out, are commonplace in the road environment, relatively small, and involve only simple changes between colours which are less likely to attract attention than the changing images on a billboard.

As such, drivers' attention may well be drawn away from the traffic signals in favour of looking at the billboard. The ITA and further information memo place a lot of importance on the traffic signal backing boards – whilst these may help make a visual distinction between the signals and the billboard, they will do very little to ensure drivers concentrate on the signals rather than the billboard. Turner (2016) [2] recommends "w*hen signs are located close to key decision points (e.g. intersections), DPADs* [Digital and Projected Advertising Signs] *should be located outside cone of vision to reduce number of glances and likelihood of obscuring traffic signs and traffic signals*." (p. 6)

[1] The conclusion of the ITA states: *"The detailed analysis of the billboard location with respect to the signal aspects indicates that the billboard will be visible below the signal aspects in the critical decision zone on the eastern approach. On this basis, the billboard is not expected to represent a conflict with the signal."*

[2] Turner, S. (2016). *Digital and Projected Advertising Signs: Road Safety Considerations and Consent Conditions*. Prepared for Christchurch City Council. NZ

Furthermore, identification of traffic signals is not the only concern when approaching the intersection; it is also important to identify the behaviour of other traffic, which may be slowing, stopping, or changing lanes etc; this has not been considered in the ITA. Turner (2016) noted *"research has shown that as a result of diverting attention to billboards there is relatively little impact on vehicle control, but a significant impact on detection of and response to hazards (e.g., slowing vehicle ahead, pedestrian crossing the street). The result of this distraction is sometimes a crash."* (p.5)

The further information memo states: *"Digital billboards have been now been installed in a wide variety of locations across the country and there is no evidence in the crash record that suggests any adverse safety impacts despite the fact that the* [sic] *many of these are located close to signalised intersections."* However, the applicant has not given any specific references to studies, or stated whether any studies included any billboards in the sightline or cone of vision of a driver in the decision zone looking at the necessary traffic signals, and ViaStrada highly doubts that this would be the case. Therefore, ViaStrada considers this statement should be disregarded. The memo also mentions an "*ARRB study of before and after performances and road safety at signalised intersections where billboards were established*" saying that this study "*revealed no adverse effects*"; without a proper reference, it is difficult to know which study this is, and the proximity of the billboards studied to the relevant traffic signals. ViaStrada assumes the study was one recently undertaken by ARRB (Australian Road Research Board) for the Outdoor Media Association, which considered two billboards. Further information on the details of the billboards and their placement with respect to traffic signals is not readily available, but the ARRB summary does caution *"It is important to recognise that these results only relate to two specific sites and not to digital billboards generally".*[3]

Drivers who are distracted in the decision zone may make an incorrect decision. This could increase the exiting rear-end crash problem, and also result in side-swipe crashes. More seriously, if the distracted driver is unimpeded by vehicles in front and does not notice that the signals have changed to yellow or red, they may run a red light; this could result in a head-on crash with opposing right turners, conflict with pedestrians on the Moorhouse Ave crosswalk, or conflict with cyclists using the major cycleway crossing (the latter two of these groups being vulnerable to serious injury when involved in a crash with a motor vehicle). Truck drivers are more likely to be distracted by the billboard, given it will appear behind at least part of the signal face during their time in the decision zone, thus increasing the likelihood of a serious injury resulting due to distraction from the billboard. Therefore, ViaStrada considers the effects of distraction to approaching westbound drivers may be **more than minor**.

[3] https://www.arrb.com.au/news/outdoor-ads-can-improve-driver-performance

The applicant did not supply sightlines for the permitted baseline scenarios. Figure 2-4 gives an approximate representation of the effects of the permitted baseline on sightlines, compared with the original plan from the ITA.

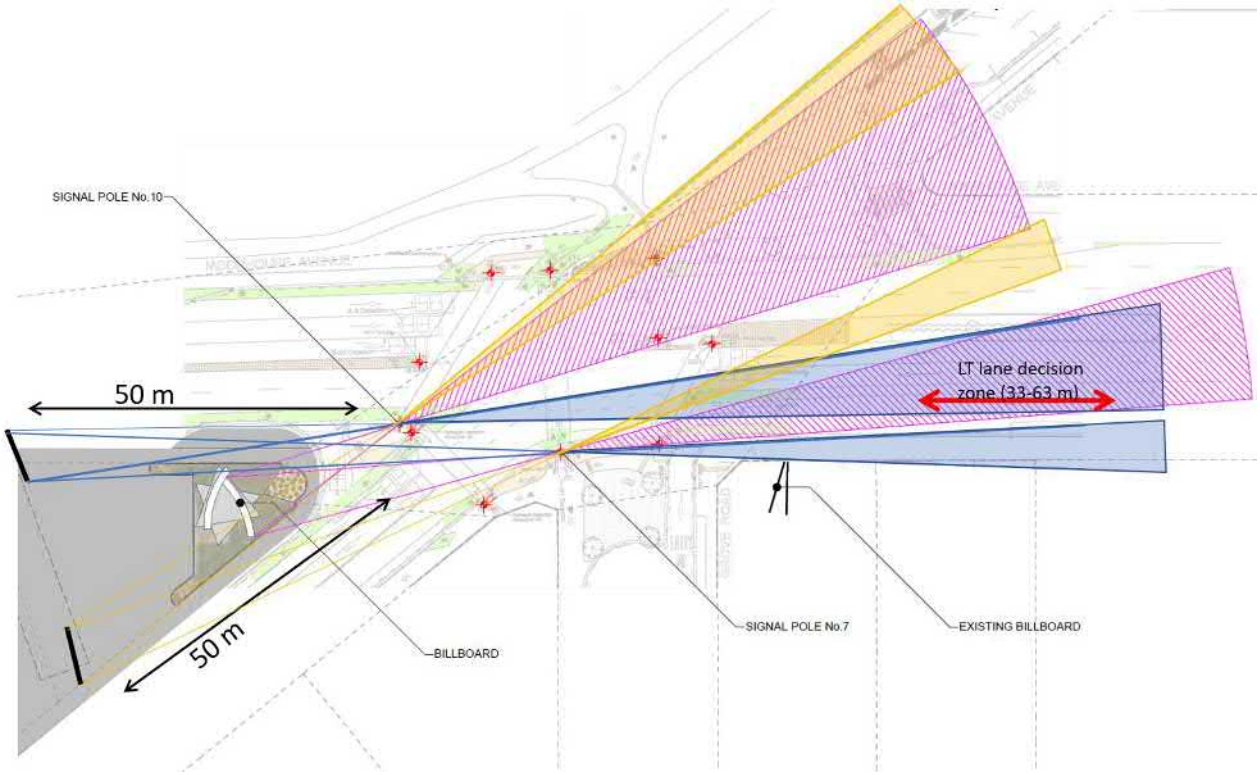


Figure 2-4: Comparison of sightlines for permitted baseline and proposed billboards

It can be seen from Figure 2-4 that a billboard positioned 50 m back from the intersection on the Moorhouse Avenue side of the property would be in line horizontally with pole 10 for drivers approaching on Moorhouse Avenue east in the decision zone; but the height at which the billboard is mounted would determine at what point along the driver's trajectory the billboard actually appears in-line with the signal face. More importantly, the signals on poles 7 and 6, which are the critical ones for drivers in the decision zone, would be clear of the billboard, under the permitted baseline scenario (but not the proposal). Figure 2-4 also shows the permitted baseline billboard on the Lincoln Road side of the property would not be in line with any of the relevant signals.

Thus, the permitted baseline scenarios are preferable to the proposal in terms of distinction from traffic signals for approaching drivers in the decision zone.

As discussed in section 2.2.2, the ITA only applied this assessment to approaching traffic, but ViaStrada considers drivers moving through the intersection will also be susceptible to distraction – specific movements are discussed below.

2.3.2 Drivers waiting at the limit line (not covered in ITA)

Drivers waiting at a red signal sometimes make a false start in reaction to seeing a change in other movements' signals or other traffic starting to move. This is a common occurrence at intersections with a lead right turn with drivers travelling straight ahead expecting to receive a green signal.

Drivers on the Moorhouse Ave east approach waiting during the C phase (Lincoln Road traffic – see Figure 2-2) may expect it will be their turn next; they may make a false start when they observe the opposing Moorhouse Ave traffic (B phase) or just the opposing right turners (B1 phase) start, however this would put them in conflict with pedestrians on the P2 crossing (B and B1 phases), and potentially cyclists on the cycle crossing (B1 phase only). Drivers who do make false starts usually realise quickly and brake before encountering conflict, thus crashes resulting from such a mistake are expected to be infrequent. However,

any conflict that did occur with a pedestrian or cyclist would be likely to result in serious injury (i.e. high impact). Therefore, the effects resulting from this issue are likely to be at least **minor**.

ViaStrada notes that the mock-up images of the permitted baseline show that a billboard 50 m back from the intersection on the Moorhouse Avenue side of the property may be behind the top left corner of the signal face on pole 10. However, the green signal, which is the critical one in terms of a signal change for drivers waiting at the limit line will still be clear of the billboard. More importantly, in the scenario of drivers waiting at the limit line making false starts, the critical consideration is that of the distractibility of the billboard, and the proposed billboard will be larger and closer, therefore of greater distraction to waiting drivers.

2.3.3 Left turn into Lincoln Road (not covered in ITA)

The Grove / Hagley / Lincoln / Moorhouse intersection was last upgraded in 2015 as part of the An Accessible City TP5 project, including a section of the Little River Link Major Cycleway. One of the issues identified in the post-construction road safety audit for this project[4] was that vehicles turning left from the Moorhouse Ave east approach into Lincoln Road often encroach on the cycle lane in the south quadrant. The safety auditors considered this would cause infrequent conflict between motor vehicles and cyclists, but that any such conflict that did occur would be likely to result in serious injury to the cyclist.

Figure 2-5: Truck encroaching on cycle lane

The crash history does not include any crashes between motor vehicles and cyclists on this corner, but there was a similar crash just downstream of the corner where a driver turned into the Espresso Carwash driveway and hit a cyclist (crash ID 201975207); this attests to the fact that some drivers fail to look for cyclists on a cycle lane when turning across it.

ViaStrada considers the existing issue of encroachment on the cycle lane around the corner will be compounded by the presence of a billboard on the corner of Lincoln Road, as drivers distracted by the billboard will be less likely to notice their tracking and less likely to notice the presence of cyclists.

[4] Wilke and Fergus (2015). *An Accessible City TP5: Hagley / Moorhouse / Selwyn Post Construction Safety Audit*. Issued to CCC December 2015, with subsequent discussion in 2016.

Furthermore, while the ITA notes that not all signals are in the vicinity of the billboard, ViaStrada notes that drivers turning left will focus on the signals to the left side of the road (e.g. poles 6, 7 and 10 in Figure 2-1), which are the ones closest to the east-facing billboard. The left turn is operated independently of the adjacent through movement during the A and C phases (depending on presence of pedestrians on the P3 and P2 crosswalks, see Figure 2-2) so it is necessary for turning drivers to pay particular attention to the arrow signals.

The crash history suggests this issue is one of low frequency, but, if a cyclist were hit by a cornering vehicle they would likely sustain serious injuries (i.e. high impact). Therefore, the effects of introducing the billboard are expected to be **minor** under the current situation.

If the scheme currently proposed for the Lincoln Rd bus priority improvements (Figure 2-3) is implemented, this will involve a cycle bypass around the southern corner. Cyclists would leave the carriageway at Grove Road and bike around the corner on a section of shared path, and then re-join the carriageway on Lincoln Road where they could then cycle in the bus lane (note that cyclists are included as intended users of bus lanes, by definition in the Road User Rule). While this is considered an improvement to the existing situation, if a billboard were present drivers (including bus drivers about to enter the bus lane) may still be distracted and not notice a cyclist re-entering the carriageway and collide with them. However, this scenario would be much less likely to occur and therefore is considered **less than minor**.

The billboards for the permitted baseline scenarios would not have the same effect on left turning motorists, as the east-facing billboard(s) would be further away, smaller, and not in-line with the critical traffic signals on pole 7.

2.3.4 Travelling straight ahead through the intersection (not covered in ITA)

Similar to drivers turning left into Lincoln Road, those travelling straight through the intersection may also focus on the billboard and not pay enough attention to behaviour of adjacent vehicles. This could result in sideswipe or rear end crashes, which are generally low-severity crashes, except if they involve cyclists (who could also be travelling straight ahead through the intersection). However, travelling through the intersection is a less demanding task than turning left and the traffic signals are less important to this task, so the effects of the billboard are expected to be **less than minor**.

This issue would be less concerning under the permitted baseline scenarios, as the east-facing billboard(s) would be further away, and smaller, therefore less of a distraction to drivers travelling through the intersection.

2.4 West-facing billboard

2.4.1 Drivers approaching the intersection

All the ITA says about the west facing billboard is:

"*Photograph 7 and Photograph 8 demonstrate that the west-facing billboard is located in a position that is not located in the sightlines towards any west-facing signal aspects at the intersection because of its position 5m to the south of the carriageway and because all signal aspects for the eastbound movements are located on either side of the eastbound carriageway. In this position, the content of the billboard will not obstruct or obscure visibility of any signal aspects for the western approach.*"

This assessment ignores the fact that drivers approaching on Moorhouse Ave from the west may still be attracted to look at the billboard, thus focusing less on the traffic in front of them and the signal displays. Turner (2016)[5] stated: "*Glance frequency is higher for DPADs* [Digital and Projected Advertising Signs] *within the cone of vision (10 degree to side and 20 degree up) but glance duration is lower. Glance frequency is reduced but glance duration is increased when DPADs are outside cone of vision (greater than 10 degree to*

[5] Turner, S. (2016). *Digital and Projected Advertising Signs: Road Safety Considerations and Consent Conditions*. Prepared for Christchurch City Council. NZ

side and 20 degree up). Glance duration is generally a bigger factor in crashes and so there should be preference to placing signs in cone of vision.[6]" (p.6)

This distraction for drivers approaching from the west may result in an increase in rear-end and side-swipe crashes, with the effects being at least **minor**.

This issue would be less concerning under the permitted baseline scenarios, as the west-facing billboard(s) would be further away from the intersection (albeit still within the decision zone) giving drivers a longer approach distance free from the additional distraction.

2.5 Potential for conflict with existing billboards

The ITA presents a series of modified photographs showing the proposed billboards in relation to two existing billboards on Moorhouse Avenue; two of these are reproduced below:

Figure 2-6 (Photograph 5 from ITA): Moorhouse Ave view west – approx. 50 m from limit line

Figure 2-7 (Photograph 8 from ITA): Moorhouse Ave eastbound traffic lane east of intersection

The ITA states: "*Since the existing sign is not owned by Lumo Digital, it is not practical or possible to co-ordinate the image transitions with the proposed sign and it is likely than both images will change at different*

[6] Note that this does not apply when the sign is in the vicinity of an intersection, as per the other reference to Turner (2016) cited in section 2.3.1 of this document.

times. The lack of coordination is not expected to contribute a higher level of distraction than any single sign because the signs form part of the general roadside advertising that is present along Moorhouse Avenue and what is visible to a driver changes as they travel along Moorhouse Avenue."

And, regarding the west-facing billboard specifically: "*the drivers' attention is expected to be more focused on the signal aspects than the signage on the right hand side of the road*."

ViaStrada considers that having multiple billboards in a driver's field of vision adds further competition for the driver's attention and therefore increases the risk that they will not pay sufficient attention to the traffic signals or behaviour of surrounding traffic. As discussed in section 2.3.2, drivers react to change therefore the inability to coordinate changes between billboards will subject drivers to frequent changes happening in their field of vision, and compound the effects of the distraction. It is noted that the neighbouring billboards have a minimum display duration of 8 seconds and the proposed billboard would have the same display time, making the situation slightly better than if they were operated according to the permitted baseline operation of 7 seconds minimum display duration.

For the west-facing billboard, whilst drivers *should* focus their attention on the traffic signals, human nature makes it likely that they will turn to look at the billboards, and the consequences of this would be more severe, as the traffic signals would then be only in their peripheral vision.

The effects of the existing billboards have been included in Table 1 in relation to the individual traffic movements discussed above.

3 Summary of reviewed effects

Based on the above discussion of the ITA, ViaStrada considers the two proposed billboards will have the following effects in terms of causing distraction or confusion to motorists in their observance of traffic conditions, directions or controls. The effects are considered in relation to the existing billboards on Moorhouse Avenue, and in comparison to the permitted baseline scenarios.

Table 1: Assessment of effects for proposed billboards

Affected traffic	Situation	Assessment
Moorhouse east approach, approaching intersection (see section 2.3.1)	Signals on poles 6 and 7 will be partially in line with the billboard for truck drivers in the decision zone, and the signals and billboard will be in close proximity for car drivers. Drivers (of all vehicle types) looking at the billboard are likely to pay less attention to surrounding vehicles or state of traffic signals. This is likely to intensify the existing rear-end crash problem, and also result in side-swiping crashes where lane changing is involved. Furthermore, it could result in red-light running, which would be of serious consequence, especially if pedestrians, cyclists, and / or heavy vehicles are involved. Introducing the proposed east-facing billboard in the vicinity of the existing billboard 50 m east of the intersection is likely to have a further compound effect due to the competing distractions between the two. This issue would be less concerning under the permitted baseline scenarios, as the east-facing billboard(s) would be further away, smaller, and not in-line with the critical traffic signals on poles 6 and 7.	More than minor
Moorhouse east approach, waiting at limit line (see section 2.3.2)	Drivers looking at the billboard pay less attention to their traffic signals and are more susceptible to reacting to a change in movement of surrounding traffic – e.g. the Lincoln Rd traffic stopping and oncoming Moorhouse Ave traffic starting. This could result in collisions with pedestrians or cyclists crossing during the B or B1 phases. This issue is not compounded by any existing billboards, as these are not visible from the limit line. This issue would be less concerning under the permitted baseline scenarios, as the east-facing billboard(s) would be further away and smaller thus making it less of a distraction to drivers waiting for a change in their traffic signals.	At least minor

Left turn from Moorhouse east into Lincoln Rd (see section 2.3.3)	Drivers looking at the billboard pay less attention to their alignment and the presence of cyclists when turning the corner. This is likely to intensify the existing problem of drivers encroaching on the cycle lane on the corner and result in collision with cyclists. This issue is not compounded by any existing billboards, as these are not visible from the limit line. This issue would be less concerning under the permitted baseline scenarios, as the east-facing billboard(s) would be further away, smaller, and not in-line with the critical traffic signals on pole 7.	Minor (under current layout) Less than minor if cycle bypass introduced
Straight through intersection from Moorhouse east (see section 2.3.4)	Drivers looking at the billboard while travelling through the intersection pay less attention to surrounding traffic. This could result in sideswipe or rear end crashes, including with cyclists travelling straight ahead. This issue is not compounded by any existing billboards, as these are not visible from the limit line. This issue would be less concerning under the permitted baseline scenarios, as the east-facing billboard(s) would be further away, and smaller.	Less than minor
Moorhouse west approach, approaching the intersection (see section 2.4.1)	This assessment ignores the fact that drivers approaching on Moorhouse Ave from the west may still be attracted to look at the billboard, thus focusing less on the traffic in front of them and the signal displays. This is likely to result in an increase in rear-end and side-swipe crashes. Introducing the proposed west-facing billboard in the vicinity of the existing billboard 50 m east of the intersection will have a further compound effect due to the competing distractions between the two. This issue would be less concerning under the permitted baseline scenarios, as the west-facing billboard(s) would be further away from the intersection (albeit still within the decision zone) giving drivers a longer approach distance free from the additional distraction.	At least minor

4 Conclusions

Advertising billboards are specifically designed to attract people's attention; this is assumedly why the District Plan includes a rule that digital billboards should not be allowed within 50 m of an intersection, and why it limits the permitted size of billboards.

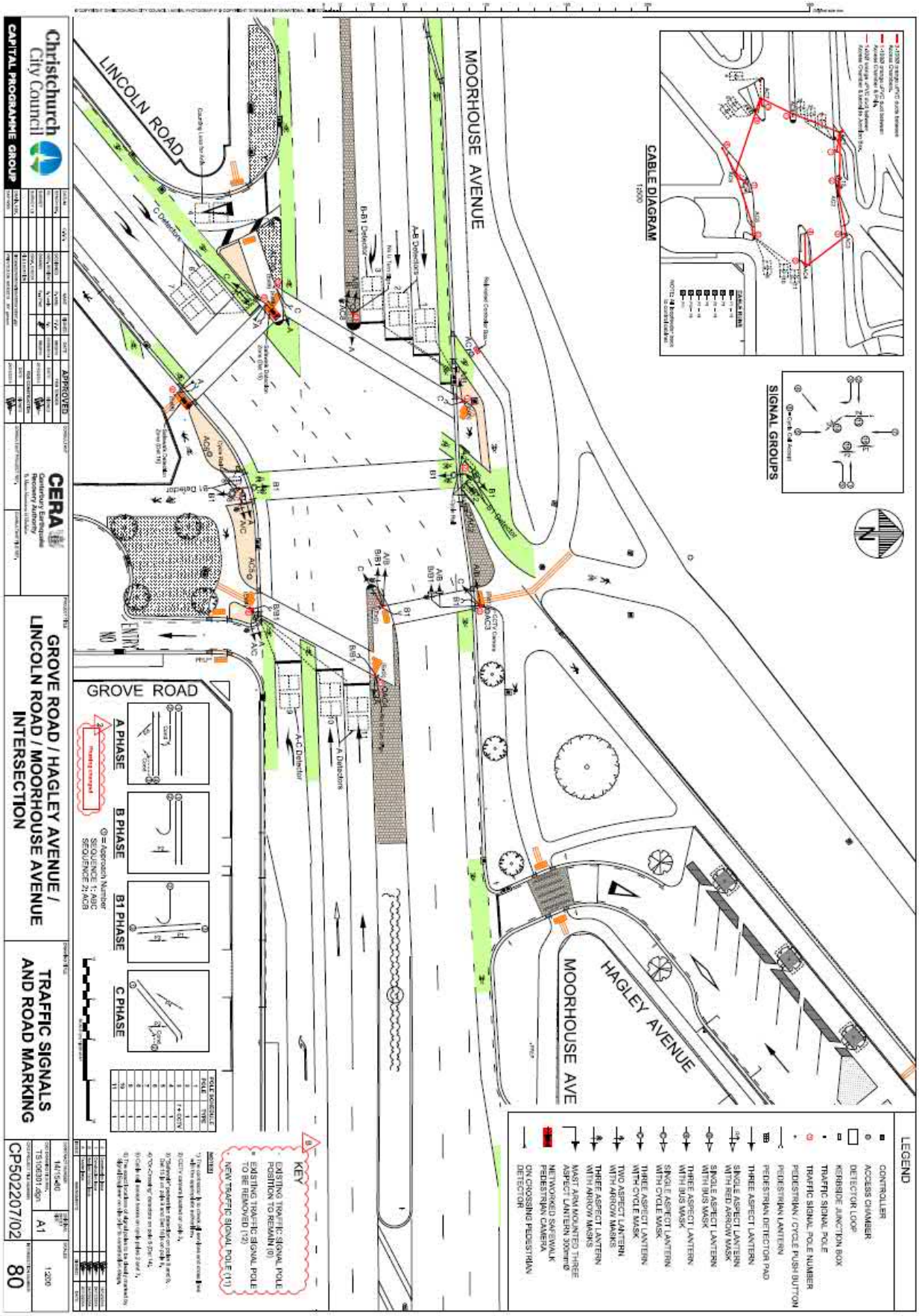
The ITA assumes that billboards situated very close to, but not directly behind, traffic signals will not cause *confusion* to drivers, but ViaStrada notes that, even if the billboards and traffic signals are visually distinct, billboards in close proximity to traffic signals are likely to *distract* driver attention. Furthermore, the further information memo shows that the billboard will appear at least partially behind the critical signals for truck drivers in the decision zone in the left turn and central lanes on the Moorhouse Ave east approach which compounds the issue of driver distraction for heavy vehicles. In addition, the ITA has not considered critical movements for drivers coming from the east approach either wating at the limit line or travelling through the intersection, where the east-facing billboard will still be visible.

Overall, ViaStrada considers that the proposed billboards will distract drivers' attention away from the necessary observance of traffic conditions, directions, and controls (traffic signals). Therefore, ViaStrada cannot support the proposal, from a transport safety perspective. Several issues have been identified, relating to different traffic movements; the most critical of these is for traffic on the Moorhouse Avenue east approach in the decision zone, where distraction could result in red light running which in turn could result in crashes involving pedestrians, cyclists, and / or heavy vehicles. Therefore, the overall effect of the billboard is expected to be **more than minor**.

In the cases of traffic approaching the intersection on Moorhouse Avenue, the proposed billboards will in combination with the existing billboards will have compounded adverse effects, due to lack of coordination and competition for attention, thus further increasing driver distraction.

The permitted baseline scenarios presented would be of less concern for all traffic movements considered, given the permitted billboards would be smaller in size, further away from the intersection, and not in-line with critical traffic signal faces.

Appendix A. Intersection signals and phasing plan



MEMORANDUM

To: Christchurch City Council

Attn: Matthew Klomp

Date: 4 November 2020

Re: Addendum 1 to peer review of Digital Billboard RMA/2020/702 - 399 Lincoln Road, Addington

Quality Assurance Statement		
This document has been prepared for the benefit of Christchurch City Council. No liability is accepted by ViaStrada Ltd, or any of its employees or sub-consultants with respect to its use by any other person.	Prepared by:	Megan Gregory
	Reviewed by:	Axel Wilke
	Project Number:	1077-78
	Project Name:	Lincoln Road Digital Billboard peer review
	Version:	Addendum 1 to version 02 of main report

1 Background

Christchurch City Council has received an application to erect two digital billboards at 399 Lincoln Road, Addington; this property is on a corner at the Grove / Hagley / Lincoln / Moorhouse signalised intersection, and the billboards will be approximately 150 m from the railway level crossing on Lincoln Road.

This addendum corresponds to the memorandum entitled "Lincoln Road Digital Billboard peer review; version 02 Final – amendment 1" issued by ViaStrada to Christchurch City Council (CCC) on 2 June 2020.

Since the delivery of the abovementioned review, ViaStrada has received:

- Stantec's updated traffic assessment memorandum – dated 3 August 2020; with the main updates (compared to the original assessment plus response to RFI dated 1 May 2020) consisting of:
  - Specification that a truck driver eye height of 2.4 m was used
  - Improved explanation of red and green aspect position graphs and driver sightline diagrams.
  - Specification of probability of billboard display change occurring within driver's decision zone (1 in 4 for 8 second display time)
  - Specification of probability of billboard display change occurring while a truck driver traverses the decision zone (less than 1 in 100[1])
- Indication via CCC that the applicant has proposed to further increase the billboard image display time from 8 seconds to 16 seconds.
- 12 public submissions regarding the billboard application (the three submitters who mentioned effects of the proposed digital billboards on traffic operations / safety were concerned that there would be negative effects due to driver distraction).
- Updated list of existing, consented and permitted digital and static billboards in the vicinity of the site provided by CCC ("RMA2020702 Breakdown of exist~billboards in surrounding area.xlsx").

2 Further clarifications to ViaStrada's original memorandum

It has been brought to ViaStrada's attention that some of the points from the original Lincoln Road digital billboard peer review memorandum would benefit from further clarification.

2.1 Critical traffic movements

In section 2.2.2 ViaStrada stated that "*it is also important to assess drivers waiting at the limit line and those travelling through the intersection with respect to the east-facing billboard which is located on the far side of the intersection*." As discussed further in the memo, drivers waiting at the limit line could make a false start if reacting to changes in traffic signals for other movements and distracted or confused by the billboard – this could be particularly disastrous if pedestrians or cyclists are crossing the intersection. Drivers travelling through the intersection need to concentrate on their positioning and be aware of the movements of other vehicles around them.

2.2 Research findings cited from Turner (2016)[2]

There are two citations from Turner (2016) used in ViaStrada's original memo which may appear to be contradictory:

1. "w*hen signs are located close to key decision points (e.g. intersections), DPADs* [Digital and Projected Advertising Signs] *should be located outside cone of vision to reduce number of glances and likelihood*

[1] While not specified by Stantec – this figure relates to total drivers, not just truck drivers.

[2] Turner, S. (2016). *Digital and Projected Advertising Signs: Road Safety Considerations and Consent Conditions*. Prepared for Christchurch City Council. NZ

of obscuring traffic signs and traffic signals." (p. 6 of Turner, 2016; cited in section 2.3.1 of ViaStrada's original memo)

2. "*Glance frequency is higher for DPADs* [Digital and Projected Advertising Signs] *within the cone of vision (10 degree to side and 20 degree up) but glance duration is lower. Glance frequency is reduced but glance duration is increased when DPADs are outside cone of vision (greater than 10 degree to side and 20 degree up). Glance duration is generally a bigger factor in crashes and so there should be preference to placing signs in cone of vision*." (p.6 of Turner, 2016; cited in section 2.4.1 of ViaStrada's original memo)

It should be clarified that these two findings are from the Canadian DPAD Regulatory and Road Safety Assessment Guidelines (2015) which is discussed by Turner (2016) as it was one source used to formulate Turner's recommendations.

The first point and relates to signs located close to intersections, and thus has been applied to the east-facing billboard, which is visible to drivers coming from the east whilst in the decision zone and travelling through the intersection.

The second point has been noted to show how the west-facing billboard could affect drivers. The traffic assessment dismissed the potential for the west-facing billboard as it is "*not located in the sightlines towards any west-facing signal aspects*". However, the second point above from the Canadian research shows that a billboard placed off to the side of the cone of vision can increase glance duration (i.e. drivers looking away from their direction of travel) which influences crashes and therefore the west-facing billboard could still be hazardous to drivers.

Turner (2016) recommends that "*If signs are permitted close to intersections* [previously defined as within 45 m] *they should be outside the COV to reduce glance frequency and of smaller size*." (p 20). Thus, the first point would take precedence when choosing between two potential billboard locations in the vicinity of an intersection (there is a footnote in ViaStrada's original memo to this effect). While the west-facing billboard is within 45 m of the intersection, the second point was included as a reminder that a billboard placed outside of the cone of vision can still adversely affect drivers, i.e. the *safest* option would be to have no billboard at all.

2.3 Comparison with permitted baseline

ViaStrada's original memo makes note of the permitted baseline scenario billboards being smaller than the proposed digital billboard. For clarification, ViaStrada acknowledges that one of the permitted baseline scenarios (see Figure 1) would result in two 18 m^2 signs being visible to drivers approaching from the east – with a combined size of 36 m^2 which is significantly greater than the proposed 29.2 m^2 billboard. However, these will be located further away than the proposed billboard and therefore appear smaller (as can be seen by comparing the applicant's indicative images of the proposed billboard with the visualisations of the permitted baseline – although, unfortunately, these were not produced from the same photo angle). Furthermore, as per Figure 1, it is anticipated that the two permitted baseline signs would be horizontally separated such that only one would be within a driver's direct line of sight at a time.

Figure 1: Permitted baseline scenario - two signs visible

Figure 2: Applicant's indicative of proposed digital billboard

Figure 3: Applicant's visualisation of permitted baseline

2.4 Potential for conflict with existing billboards

The traffic assessment (and consequently, ViaStrada's original memo) considered the potential for conflict with the existing double-sided billboard located at 60 Grove Road, which is visible to Moorhouse Avenue traffic and approximately 50 m east of the Grove / Hagley / Lincoln / Moorhouse intersection.

The traffic assessment did not include consideration of the existing double-sided digital billboard located at 26 Moorhouse Avenue, approximately 100 m west of the proposed billboard – this is illustrated in Figure 4.

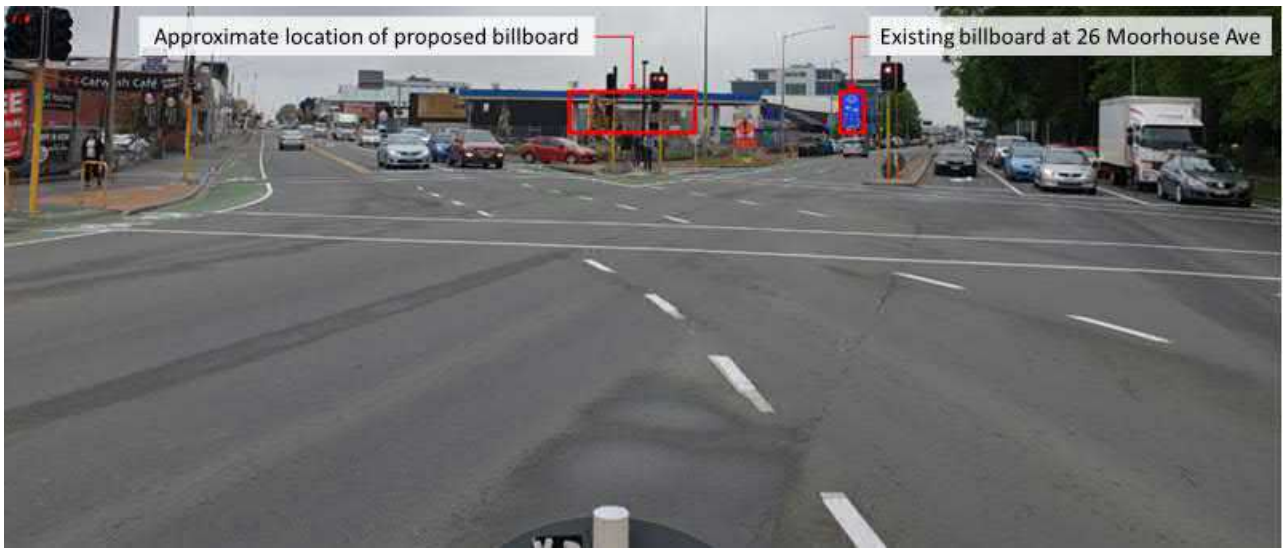


Figure 4: Westbound view of existing digital billboard at 26 Moorhouse Avenue in conjunction with proposed digital billboard

As discussed regarding the effects of the existing digital billboard at 60 Grove Road, the billboard at 26 Moorhouse Ave adds further competition for drivers' attention and therefore increases the risk that they will not pay sufficient attention to the traffic signals or surrounding traffic. With the three digital billboards (i.e. existing 60 Grove Road, proposed at 399 Lincoln Road, and existing at 26 Moorhouse Ave) drivers travelling either westbound or eastbound on Moorhouse Ave will generally have two digital billboards that are reasonably visible at all times while approaching and travelling through the intersection.

ViaStrada considers that the additional consideration of the effects of the existing billboard at 26 Moorhouse Ave does not change the level of effects expected. However, given the number of other sites in the vicinity that have the right to accommodate billboards (as per CCC's spreadsheet), it should be considered at what point adding an additional billboard would be unacceptable. Turner (2016) recommends an ideal spacing of [at least] 100 m for on-premise advertising – which the proposed billboard would satisfy with respect to the existing billboard at 26 Moorhouse Ave, but not for that at 60 Grove Road (which is approximately 80 m away).

It remains that the most important consideration for the proposed digital billboard is not its proximity to existing billboards, rather its proximity to the signalised intersection.

3 Review of updated traffic assessment

The following points are to be considered in addition to ViaStrada's original memorandum:

3.1 Effects on truck drivers

Note that ViaStrada's previous memorandum already covered the truck driver sightlines provided.

The improved explanation and discussion of probability of a driver being in the decision zone when the billboard changes is somewhat useful, but also somewhat misleading with respect to the effects on truck drivers.

The 1 in 4 probability stated is based on relative timings of the billboard and a driver's progression through the decision zone, it is not based on traffic volumes or arrival patterns. It therefore does not make statistical sense to apply the percentage of trucks in the traffic composition to this figure. For a given truck driver, the probability of them encountering a change in billboard display remains at 1 in 4 for an 8 second display time, and if the display time is increased to 16 seconds, the probability of a truck driver experiencing a change reduces to 1 in 8, i.e. one-eighth of truck drivers (about 30 truck drivers per day[3]) will be subjected to this potential confusion while in the decision zone.

As discussed in ViaStrada's previous memorandum, any crash that did result involving a truck would be more likely to have serious consequences, especially if pedestrians or cyclists are involved – and there is significant potential for this given the location of the staggered pedestrian crossing and the Major Cycle Route crossing. ViaStrada is not confident that the reduction in probability is enough to justify decreasing this issue from the "more than minor" status assigned in the previous assessment.

Furthermore, the proposed modifications and the updated traffic assessment do little to address potential for distraction overall (i.e. all other effects discussed in ViaStrada's previous report) – **all** truck and car drivers will be subjected to the general distraction created by the billboard.

3.2 References to studies of digital billboard safety effects

The traffic assessment's references to other digital billboards "in a wide variety of locations across the country" and the ARRB study are vague. It has been ViaStrada's position that, since the applicant's proposal deviates from the permitted baseline, the onus should be upon the applicant to show how any of the sites studied are similar to the proposed site in terms of visibility to drivers travelling through the intersection

[3] Assuming the two peak periods combined account for approximately 20% of total AADT.

and whether or not these sites would comply with the applicable permitted baseline in the Christchurch District Plan.

The updated traffic assessment does not go any further in addressing ViaStrada's original criticism of the ARRB study – that it only considered two digital billboards, that detail regarding these billboards and their sites have not been provided, and that ARRB cautions that the findings from their study "*only relate to two specific sites and not to digital billboards generally"*.

Similarly, no specific research to back up the applicant's claim that there is no evidence to show the existing digital billboards across New Zealand have any adverse safety impacts has been provided. ViaStrada's knowledge of the existing research suggests that it is inconclusive at best.

Furthermore, the applicant has failed to mention Turner (2016), which presents a wealth of international knowledge which cautions against allowing digital billboards within driver decision zones including intersections.

3.3 Conclusion

Overall, ViaStrada considers the updated traffic assessment does not justify modification to the summary of effects or conclusions stated in ViaStrada's previous memorandum.

MEMO

To: Matthew Klomp, Planner

From: David Hattam, Senior Urban Designer

Date: 28/9/2020

Re: RMA/2020/702 – Digital Billboard 399 Lincoln Road– Urban Design Assessment

1 Introduction

This paper is primarily a review of the assessment and accompanying visualisations provided by Mr Knott, of Richard Knott Limited. I have expanded on this in a few places where I have not agreed with the information supplied, and where I have found that some additional analysis was needed to reach a conclusion.

Overall, I have reached the conclusion that the east facing billboard would have high adverse visual effects, above the permitted scenarios, due to the impact on the Hagley Avenue shared path, located within Hagley Park. This is due to the quality of the Hagley Park environment, the extent of visual impacts due to the size and location of the billboard, the amount of users of the space and their high sensitivity to change. Hagley Park has significant heritage value and is the premier open space of the city.

The proposal would additionally result in moderate visual effects, from both sides of the board when viewed from locations along Moorhouse Avenue, including moderate cumulative effects when seen in conjunction with existing digital signage.

I agree in part with the assessment of Mr Knott but diverge in a number of matters. I consider that the reasons for this difference in opinion are:

- Mr Knott's assessment has not included consideration of cumulative effects in combination with other signs in the area.
- Whilst I have mostly agreed with the conclusions reached regarding individual viewpoints, I do not agree with the assessment in relation to the Hagley Avenue shared path, where I consider the impact to be high as opposed to very low. This is a significant point of difference.
- I have given consideration to the increased impacts of digital signage, over equivalent static signage.
- I have found that some residents of 420 Hagley Avenue (with balconies facing the proposed billboard) would be affected by the proposal.

2 Methodology

Mr Knott has provided a visual assessment which grades the scale of visual impact using a 7 point scale, applied to a selection of viewpoints. This is an appropriate methodology for assessment of visual effects.

I have considered the assessment and verified the scale of impacts using the seven point scale provided by the NZILA, as described by Boffa Miskell in the CCC research paper *Technical Review of Visual Effects - LED Billboard Research* (refer to appendix 1). The paper describes the characteristics of each point on the scale and a "low" impact would usually be considered to result in a "minor" adverse effect.

3 Viewpoints

With regard to individual viewpoints, I generally agree with Mr Knott's assessment, with the exception of the view from the Hagley Avenue shared path to the north east, where I consider that the visual impact is high. For other

viewpoints, I have considered Mr Knott's assessment and comment as follows. Note that these comments do not include consideration of cumulative effects (refer to section 4).

View West along Moorhouse Avenue: I agree that the effects will be low, due to the nature of the existing environment and zoning.

View East along Moorhouse Avenue, including from the shared path in Hagley Park: I agree that the effects will be low, due to the existing evironment and zoning and the nature of the backdrop.

Views from the apartments at 420 Hagley Avenue: Mr Knott's assessment has not considered the impact on the 4 upper-floor apartments which will have direct views of the billboard. The proposed billboard would be approximately 150m from these apartments, a distance at which it would be prominent, although within a low quality setting. The impact of transitions would increase the degree of impact by drawing attention to the sign. The proposal would be larger than the permitted scenarios and closer to the balconies, but would also be better integrated into the built environment than permitted scenario, with more visual coherance. Taking these matters into account, I consider that the proposal would have a moderate impact on occupiers (using the NZILA scale and based on the permitted scenario, including a billboard on Lincoln Road).

View from the shared path, Hagley Avenue: A detailed consideration of the impact on the shared path on Hagley Avenue is set out below in section 5. I consider the effects here are high, due to the quality of the environment, the number of users and their purpose in using the path, and the particular way that the trees funnel views towards the board.

4 Cumulative Effects

There are two established digital billboards visible at the Lincoln Road intersection, with the proposal being to add a third and fourth. Additionally there is a recently constructed billboard at 2/26 Moorhouse Avenue.

Cumulative effects arise from the location of the proposal in conjunction with other large billboards in the vicinity. These may be visible in the same view corridor, or they may intrude on the view of people at the same location, for example if there are billboards visible in all directions from the same viewpoint, even if these are not necessarily visible at the same time.

Additionally, digital billboards are visible in peripheral vision due to transitions, which appear as movement. This means that they attract attention when they would not otherwise be visible. Human peripheral vision spans an arc of roughly 190 degrees [3]. Within the central 60 degrees, more detailed vision occurs, including symbol and colour recognition, increasing progressively towards the central 2 degrees of fovial (detailed) vision [2].

For this reason, digital billboards are visible and distracting where a static billboard would either be imperceptible, or blend into the background (outside of the central 60 degrees).

Considering the various viewpoints in turn:

- **From Hagley Avenue shared path**, cumulative effects would only apply at close distances (around 50m), because of the impact of the trees which would enclose longer views. It is my opinion that although the proposal would result in adverse cumulative effects in combination with other signage, this would be comparable to the permitted scenario presented, of two billboards on the site (and a low impact as a result).

- **Viewed from the east on Moorhouse Avenue**, the effects would be higher, because the sign would be more prominent than the permitted scenario. I consider that it would increase the scale of effects to moderate from this location (between 100m and 200m distance where two signs will be highly visible, with a third in the background), particularly from the footpath where they will be closely aligned in lines of sight. The newly-established permitted billboard at 26 Moorhouse Avenue adds to the perception of clutter and distraction, and underlines that in this environment there is limited capacity for additional signage above the minimum permitted scenario.

Above: View from the east showing cumulative impact of two billboards (newly established 18m^2 billboard at 26 Moorhouse Avenue is omitted)

- **Viewed from the west on Moorhouse Avenue**, there would also be cumulative effects at distances of around 50m. These would be greater than the permitted scenario because of the location and size of the board and would also be in the moderate category. From longer distances of over 100m, the "permitted" board would also be in view (although less centrally due to height) and from these distances the cumulative effects would be similar to the permitted scenario.

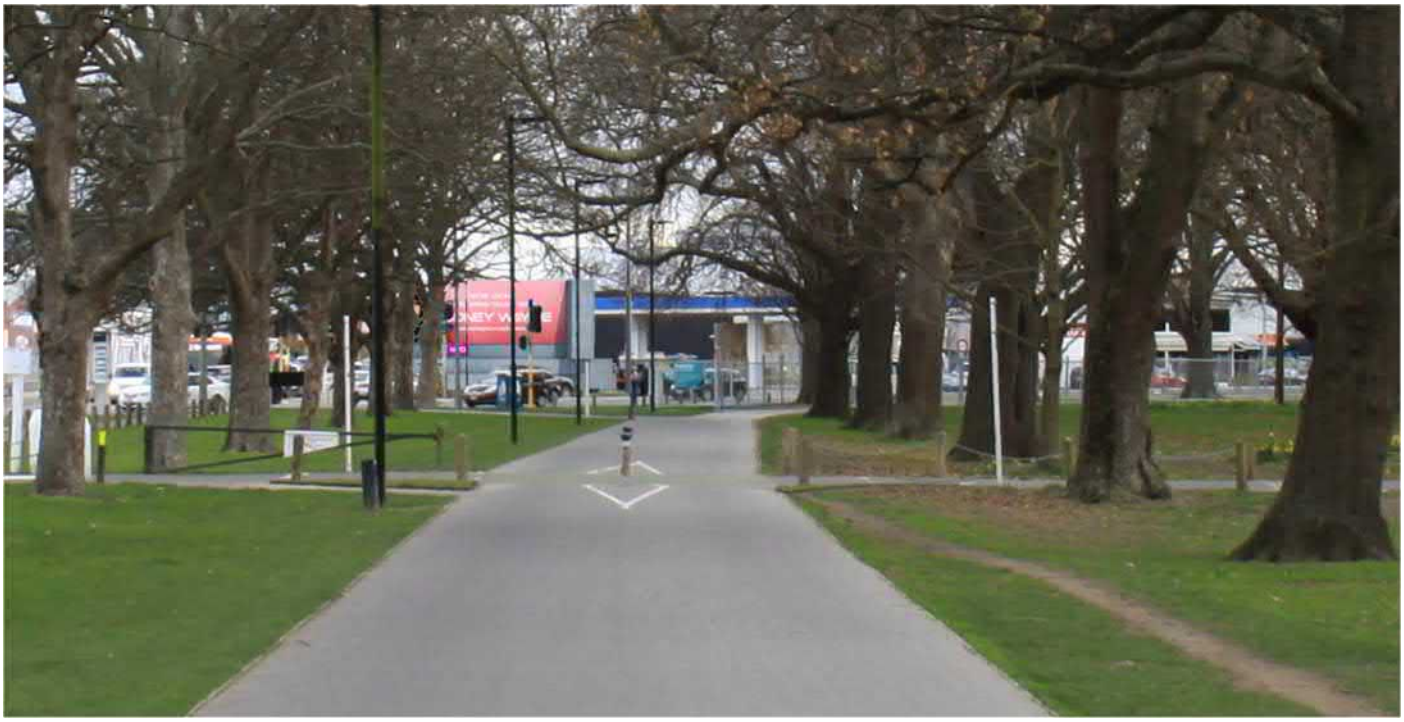
- **Viewed from the apartments at 420 Hagley Avenue** the billboard would be prominent and, whilst not necessarily visible in the same view as the existing billboard, would increase the amount of signage in the area such that it would be difficult for residents to avoid looking at signage from their windows. This impact would be increased by the effects of LED which would call attention to each of the two signs. The permitted scenario sign on Lincoln Road would also be visible in this view, albeit that it would appear smaller. With this in mind I consider the cumulative impact of the proposal would be moderate.

5 Visual Assessment - View from Hagley Avenue Shared Path

The path is within, but on the fringe of Hagley Park, which has significant heritage and amenity values for the Christchuch community and is a high quality recreation space. There are large numbers of pedestrian and cycle users of the path, a combination of people passing through the park on their way elsewhere and people using it for recreation. Both groups will be attracted by the high quality of the environment and would be sensitive to changes in its visual quality.

The park environment in which the path passes is of high quality throughout, and of particularly high quality from Selwyn Street south, until approximately 150m from the proposal. The increase in quality is due to the residential surroundings, low traffic environment adjacent to the park and absence of traffic noise.

A particular property of the view is the way that it is funnelled through the trees, which directs the viewers' attention to the end point, which terminates the view. The proposed east-facing billboard is located within this end-point, directly facing it. At a distance it is fettered by light poles within the view corridor, but from close distances it will be prominent behind them. It then becomes the focus of attention in views and will be prominent as a result. The billboard will be visible in all seasons.



The sign terminates a view corridor

The route is particularly well used during peak commuting hours when low light conditions will sometimes exist (dawn and dusk). Digital signs are highly visible during these hours, including through trees and poles, and the visual impact is therefore greater at these times (and in overcast conditions) than other times. Most billboards, calibrated to meet the NZ/AS standard, appear as particularly bright and noticeable components of views in low light conditions. In sensitive cases, boards are dimmed to avoid this situation arising (by reducing the maximum luminances), which is intended to also reduce luminance in all conditions.

The photographs in my assessment show the existing estate agent billboard which is in a similar location and is a useful reference. The proposal will appear of a similar size, but is lower than the existing board, as can be seen in the applicant's visualisations (including above).

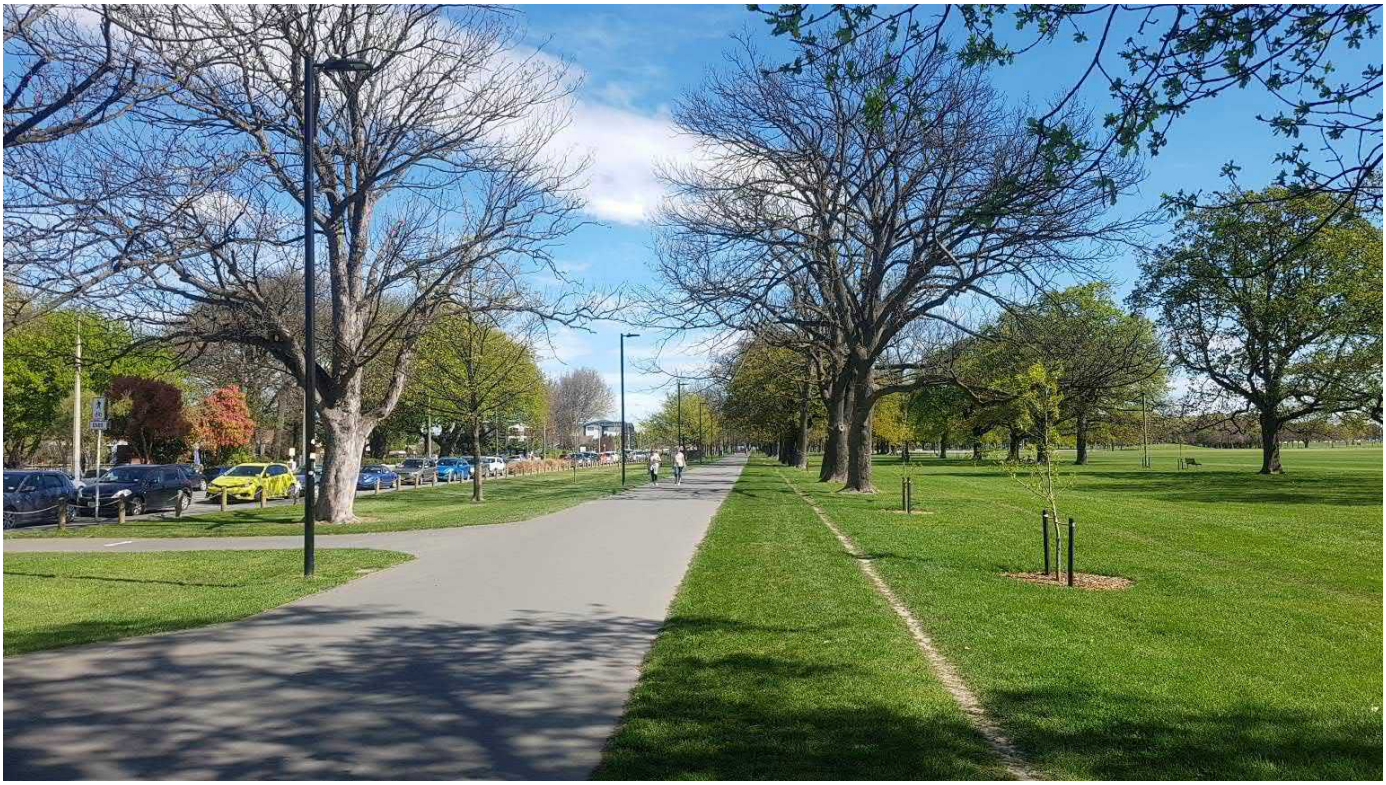
I have considered the proposal against the permitted baseline scenarios provided. Due to the trees, these would not be visible within the view-corridor identified until around 200m, when a possible billboard on Lincoln Road would be visible in the corner of the end-view (depending on the season – it would be visible only from a closer distance in Summer). Due to the size, distance and location, it would appear smaller (less than half the apparent size) and less prominent than the proposal, although it would still be somewhat distracting.

One of the Permitted Scenarios from 150m

I have assessed the proposal from various distances and conclude that it has Visual Effects as described below:

Distance	Quality of the Surroundings	Sensitivity of Users	Extent of Change	Visual Impact
700m	High	High	Low	Negligible
450m	High	High	Low	Low
300m	Very High	High	Medium	Moderate
220m	Very High	High	High	High
150m	Very High	High	High	High
50m	Low	High	Medium	Moderate

700m – St Asaph Street

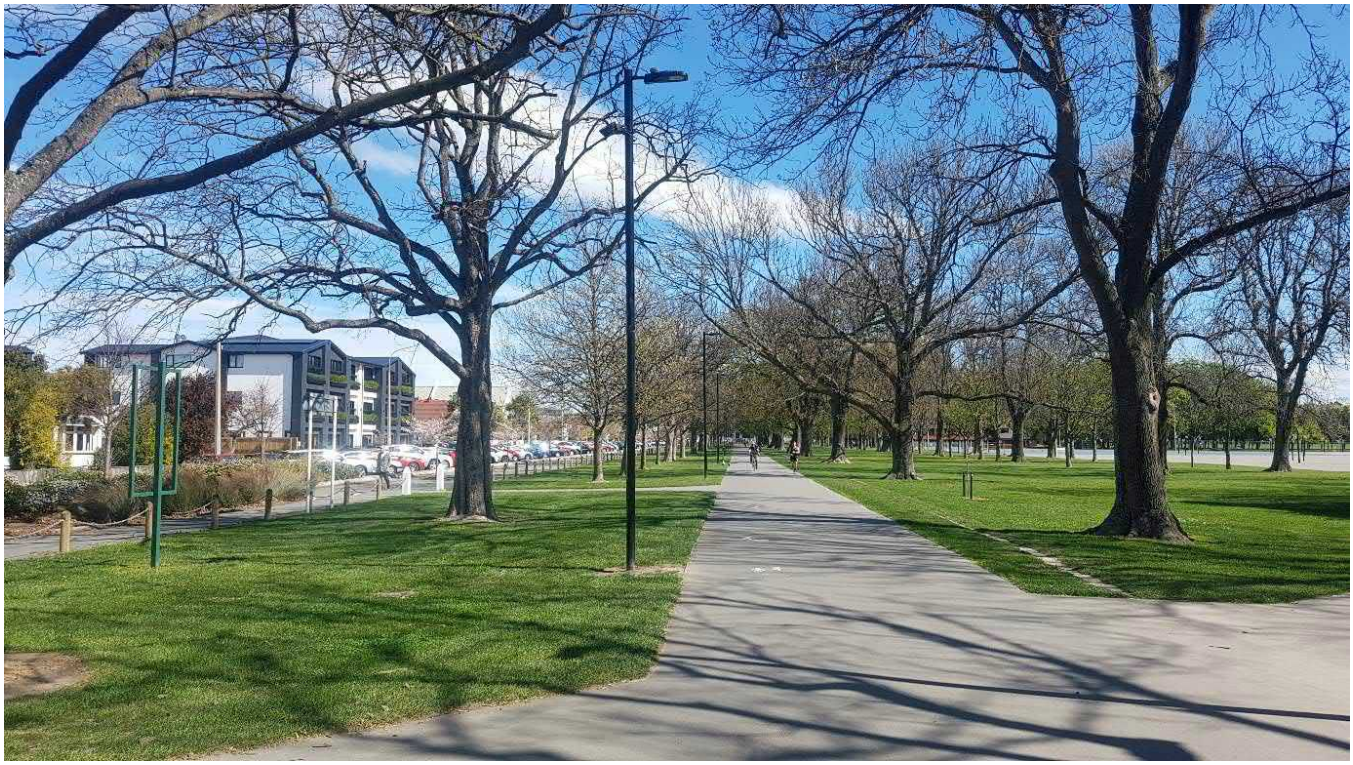


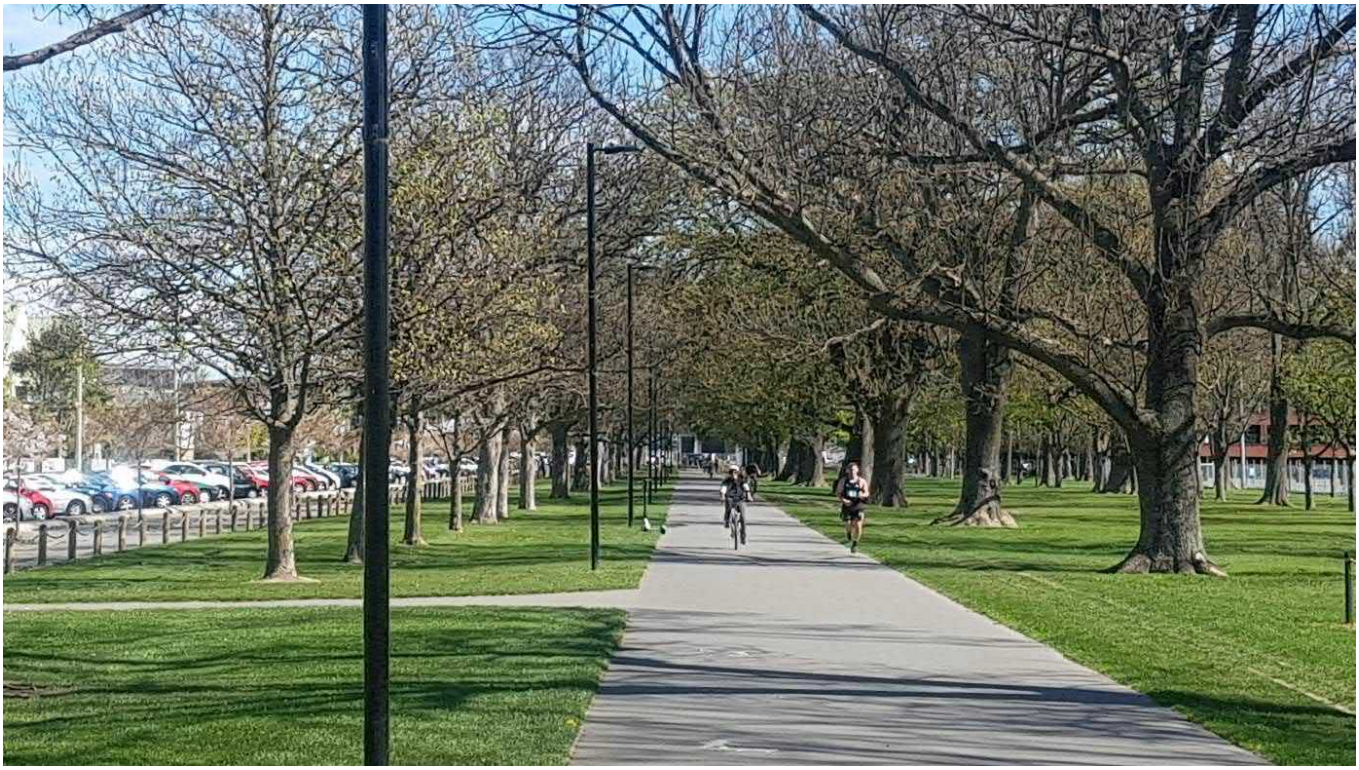
Detail – The sign is fettered by the light poles

The surrounding environment is high quality park, with views funnelled through the trees. The land use adjacent to the park is mixed and there is some through traffic on Hagley Avenue. The environment is high quality, the extent of change is low and the impact will be negligible as a result.

Digital transition may be noticable but the impact will be absorbed by the surroundings due to distance and intervening features.

450m – Selwyn Street





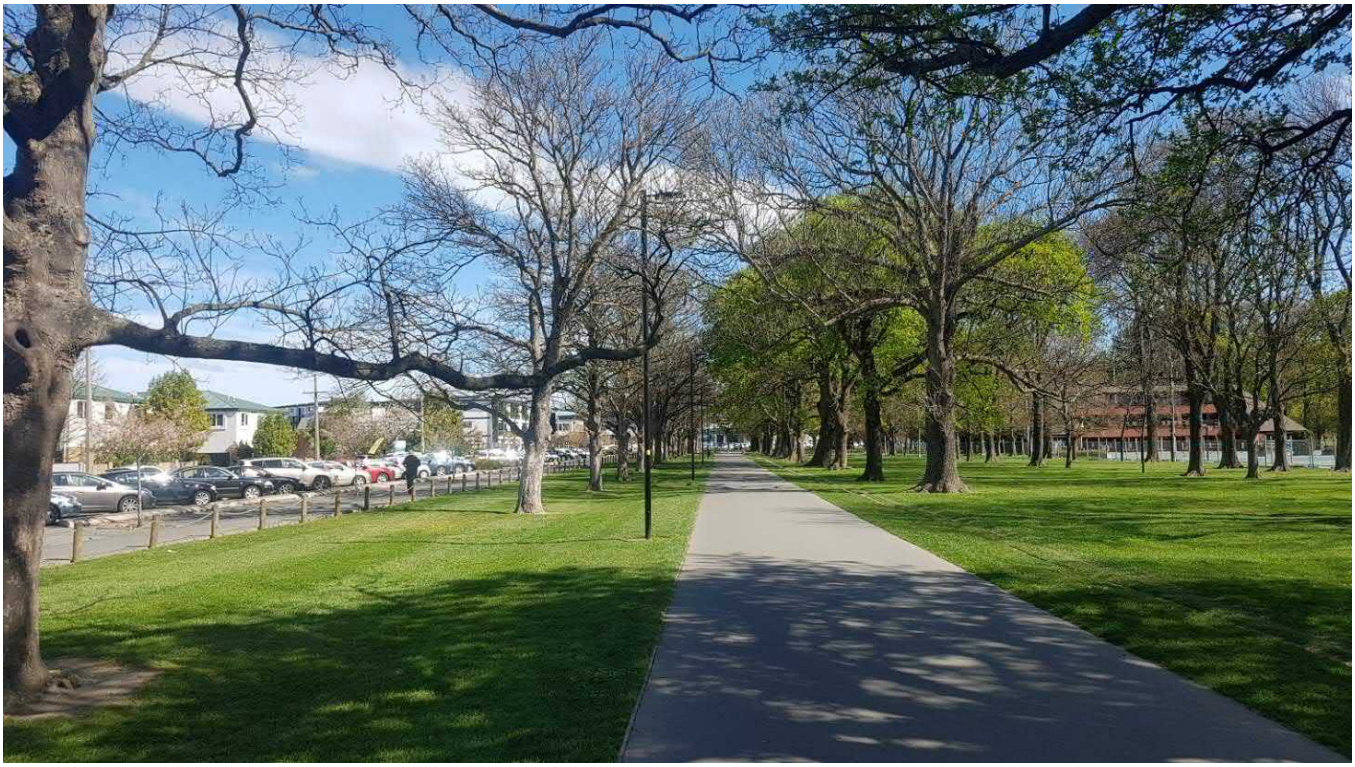
Detail - The sign is visible through the poles but not prominent.

The surrounding environment is high quality park, with views funnelled through the trees. The land use adjacent to the park is mixed use and there is some through traffic on Hagley Avenue. The environment is high quality.

The billboard is not prominent, due to distance and the intervening poles, and so the extent of change is low. The visual impact of a static billboard would be very low.

Digital transition will be noticable but the impact will be absorbed by the surroundings due to distance and intervening features. The impact will be low (the sign is uncharacteristic but not prominent).

300m – Opposite Hagley Mews



Detail – the presence of the sign is noticable

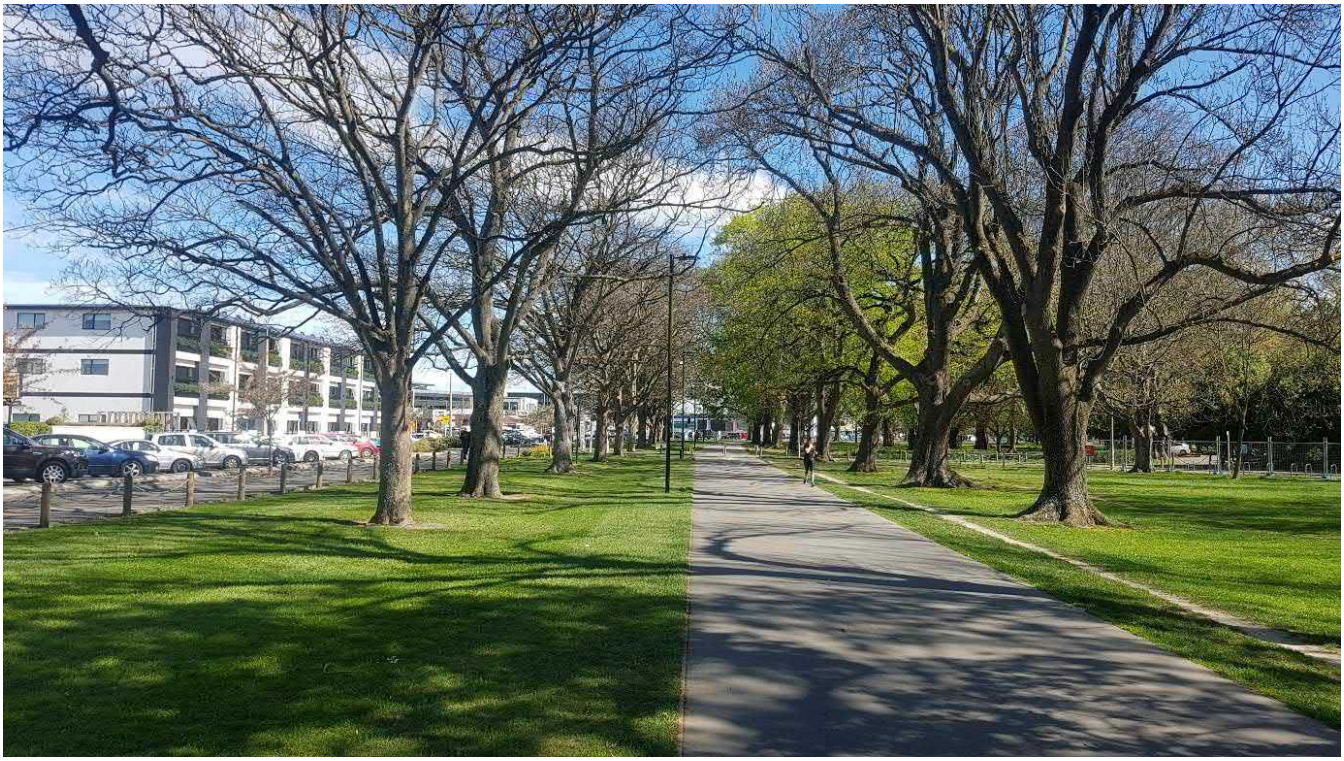
The surrounding environment is high quality park, with views funnelled through the trees. The adjacent land use is residential and there is little traffic on Hagley Avenue and minimal traffic noise. The environment is very high quality.

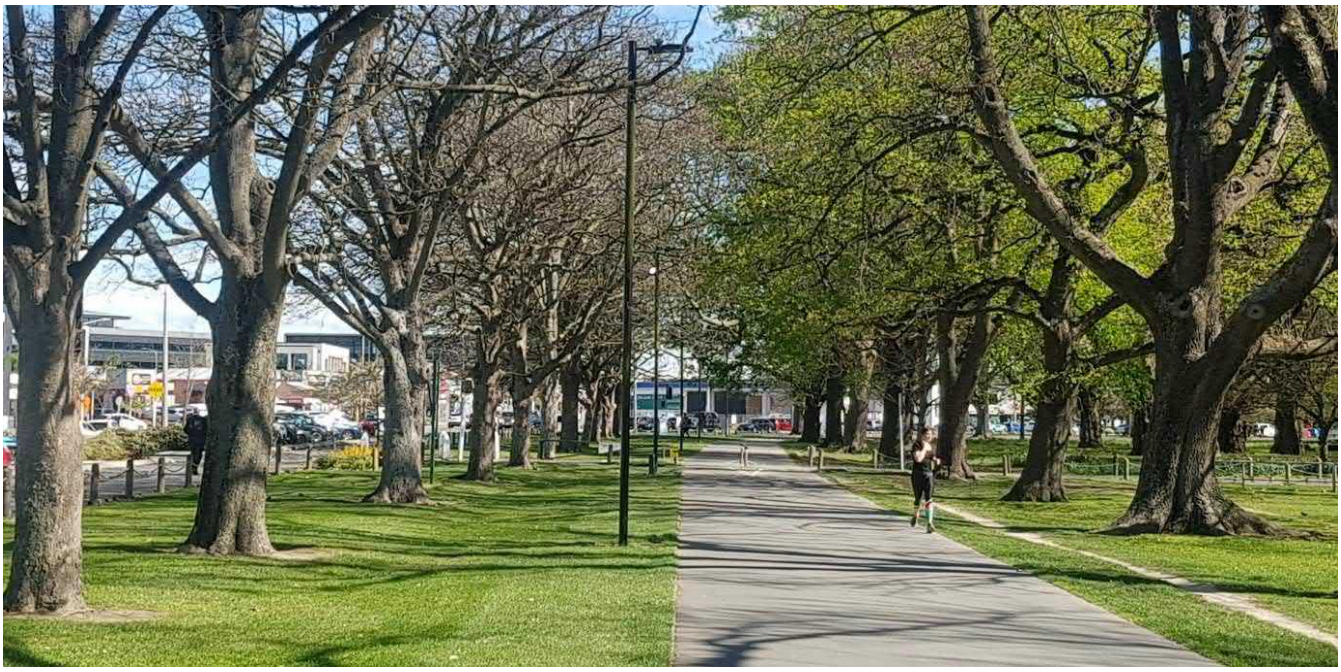
A static billboard would be visible but not prominent and the extent of change would be low.

Digital transition will be noticable but the impact will be partly absorbed by the surroundings due to distance. The billboard would not be effectively fettered by the poles at this distance. The extent of change for a digital billboard would be medium and the impact will be low-moderate (the sign is uncharacteristic but not prominent).

In low light conditions, the sign will be visible through the poles, which will draw the attention in combination with transitions. In these circumstances, a standard luminance billboard would have a moderate impact (the sign is uncharacteristic but would not amount to a major modification that materially changed the character).

220m





Detail – the sign is clearly visible

The surrounding environment is high quality park, with views funnelled through the trees and terminated by the billboard, which is clearly visible at this distance. The land use is residential and there is little traffic on Hagley Avenue and minimal traffic noise. The environment is very high quality, the extent of change is medium and the impact would be moderate for a static billboard.

The regular changes of a digital billboard seen at the end of the corridor will call attention to the end of the view and distract from the park surroundings which are the defining feature of the environment. For this reason, a digital billboard is assessed as being a major modification to a key feature of the environment which is uncharacteristic and would amount to a material change in the character. The impact of a digital billboard is high from this distance due to transitions.

The illuminated nature of the billboard in low light conditions would also be prominent and uncharacteristic and result in a moderate-high impact, regardless of the impact of changes. This is greater than a static billboard, which would not be lit at this time.

150m (adjacent Netball Courts building crossover)

Detail – the sign is clearly visible and prominent.

The surrounding environment is high quality park, with views funnelled through the trees and terminated by the sign, which is prominent at this distance.

The land use is residential and there is little traffic on Hagley Avenue and low level traffic noise. The environment is very high quality.

The extent of change for a static billboard would be medium, with a moderate impact.

The regular changes of a digital billboard seen centrally will call attention to the board in the view corridor, in which the board is prominent. This would distract from the park surroundings which are the defining feature of the environment. For this reason, a digital billboard is assessed as being a major modification to a key feature of the

environment, which is uncharacteristic and would amount to a material change in the character. The impact of a digital billboard is high.

Similarly, the illuminated nature of the billboard in low light conditions would be uncharacteristic and prominent and result in a high impact, regardless of the impact of transitions.

I have considered whether the combined impact of the use of transitions and internal illumination in low light conditions would reach the threshold for "Very High" effects. This threshold is high: "major modifications… such that little of the pre-developed character remains" and the billboard would not reach it.

50m – Directly Opposite

The surrounding visual environment is dominated by vehicles and the environment is also noisy. Elements of the park frame the view but at this distance the quality of environment transitions to low. The board would be very prominent and also visible above the surrounding urban form, but the support structure would help to integrate it somewhat.

The extent of change for a static billboard would be low in this environment and given the expected land use, and the visual impact would be low.

The digital billboard would increase the scale of effects because of transitions, and in low light conditions a standard luminance billboard (complying with luminance values in NZ/AS 4282) would be visually prominent.

A permitted scenario digital billboard on Lincoln Road would also be prominent in this location. Although it would be small and more distant, it would be higher and would be seen against the sky which increases its prominence and makes it obtrusive in the context. As a result, I consider that it would have a similar impact to the proposal and for this reason I consider the effects are in the low category, because they are equivalent to an anticipated effect.

6 District Plan Assessment Matters

When considered against the assessment matters in the district plan, listed under 6.8.5.3, the proposal can be assessed as follows:

a. *Whether the scale, design, colour, location and nature of the billboard will have impacts on the architectural integrity, amenity values, character, visual coherence, and heritage values of:*
   - *the building and the veranda on which the billboard is displayed and its ability to accommodate the signage;*
   - *the surrounding area (including anticipated changes in the area);*
   - *residential activities; and*
   - *heritage items or heritage settings, open spaces, protected trees or areas possessing significant natural values.*

   The proposal is a freestanding sign, set within an area zoned for industrial uses. The immediate context is a disused petrol station, with some office buildings as a background. The proposal is quite well integrated into this backdrop due to the support structure, which hides the clutter behind, and because it is relatively low to the ground.

   The proposal does affect the Hagley Park open space opposite and in particular is visible via a long view corridor in an area of high amenity, well used for recreational activities. Due to its size and visibility, the proposal will adversely affect the amenity values and character of this corridor to an extent categorised as "high" on the NZILA seven point scale (likely to be a significant impact).

   Four residential premises at 420 Hagley Avenue are affected by the proposal to a moderate extent, compared to a permitted scenario.

b. *Whether the extent of the impacts of the billboard are increased or lessened due to:*
   - *the design, dimensions, nature and colour of the sign or support structure;*
   - *the level of visibility of the billboard; and*
   - *vegetation or other mitigating features.*

   The large size of the display for the proposed east-facing billboard would increase the scale of impacts on the nearby Hagley Park view corridor. The nature of the support structure would not be significant from these views. Vegetation and light poles would reduce the amount of the board visible but it would still be a prominent feature from closer distances. The matters above would not affect the overall visual impact from Hagley Avenue Shared Path.

   The support structure would help to integrate the billboard from closer distances and from Moorhouse Avenue because it would provide a backdrop and would present a tidier appearance than a more traditional support structure (for instance as used opposite). For instance, it will not be possible to see under the board and the back of the boards will be hidden.

   The proposal would be more prominent from the east than a permitted scenario due to its size and central location, closer to the intersection. This impact has been graded as "moderate".

c. *Whether the billboard combines with existing signage on the building, the site or in the vicinity, to create visual clutter or set a precedent for further similar signage.*

   The proposal does create cumulative effects:

   - Looking south from Hagley Park (from 50m), it is visible in peripheral vision at the same time as two other billboards and there is no direction where people can see the lights and avoid being exposed to multiple billboards. People waiting to cross the road will be subject to distracting changes every few seconds, depending on the direction they are facing. This impact would be greater than a permitted scenario due to the location of the billboards and would have a low impact.
   - Looking west from Moorhouse Avenue at distances of 100m-200m it will be visible at the same time as an existing large billboard at 80m distance. Due to the size and prominence of the proposal, this will result in visual clutter, the effect of which will be moderate.

- Similarly, from the opposite direction, looking East from Hagley Park on the Moorhouse Avenue shared Path at a distance of around 50m, it will be visible at the same time as the existing billboard and will also result in visual clutter.

d. *Whether the billboard:*
   - *enlivens a space or screens unsightly activities; and*
   - *will result in an orderly and coordinated display.*

   The display will be orderly when seen on its own, but will not be co-ordinated because of the cumulative impacts identified above. In particular, transitions will not be co-ordinated with neighbouring billboards (and it is unlikely that this would be practical), meaning that there will be frequent and distracting transitions from three directions.

e. *Whether the extent of the impacts of the billboard are increased or lessened due to:*
   - *the frequency and intensity of intermittent or flashing light sources, and the proposed periods of illumination and frequency of image changes;*
   - *the prominence of the billboard due to its illuminated or animated nature and ability to draw the eye;*
   - *the nature of surrounding land use activities;.*

   The proposed transitions will draw the eye. This will be most apparent from the Hagley Avenue shared path because of the natural character of the area and the lack of competing "moving" elements such as other signs or vehicles. The impact here will be prominent.

   The billboard is proposed to transition less frequently than other billboards (at 16 seconds, twice the typical 8 second interval). However, this will still increase the impact of the billboard compared to a static sign. I have noted that there are permitted scenarios with similar impacts and I consider that the proposed transitions will increase the impact of the proposal when seen from the east, due to the generally prominent nature of the proposal from this direction.

   No limits on luminance are proposed in the application. I note that the billboard opposite (at 420 Hagley Avenue) has been limited to 3000 cd/m^2 (day) and 125 cd/m2 (night). This is a less than typical luminance which is more appropriate for sensitive locations such as the application site and would help to reduce the scale of impacts (although not below the "high" threshold for Hagley Avenue).

7 Conclusion

I consider that the above analysis demonstrates that the proposal for a digital billboard would have high visual effects when viewed from Hagley Avenue, and moderate or moderate-high when seen from other directions.

In making this assessment, I have generally agreed with Mr Knott's assessment, except with regard to:

- The Hagley Avenue Shared Path view, where I consider that the visual impact is high.
- The view from Moorhouse Avenue, when viewed from either direction, where I consider the cumulative impact is moderate (in conjunction with other signs).
- The impact on nearby residents at 420 Hagley Avenue, where cumulative impacts will be moderate.

Appendix 1: 7 point scale for visual effects (Boffa Miskell)

Extreme: Total loss to key elements / features / characteristics of a highly valued townscape, i.e. elements considered to be totally uncharacteristic when set within the attributes of the receiving townscape / urban context such that it amounts to complete change of highly recognised townscape / urban values.

Very High: Major modification to most key elements / features / characteristics of a valued townscape / urban context, i.e. introduction of elements considered to be largely uncharacteristic with the attributes of the receiving context such that little of the pre-development character remains.

High: Major modifications to key elements / features / characteristics of the baseline, i.e. introduction of elements considered uncharacteristic with the attributes of the receiving context such that the pre-development character remains evident but materially changed.

Moderate: Partial loss of or modification to one or more key elements / features / characteristics of the baseline, i.e. introduction of new elements may be prominent but not necessarily uncharacteristic when set within the attributes of the receiving context.

Low: Minor loss of or modification to one or more key elements / features / characteristics of the baseline, i.e. new elements may not be prominent or uncharacteristic when set within the attributes of the receiving context.

Very Low: No material loss of or modification to key elements / features / characteristics of the baseline, such that the pre-development context or view and/or introduction of elements are not uncharacteristic and absorbed within the attributes of the receiving context.

Negligible: Very minor or no loss of or modification to key elements/ features/ characteristics of the receiving context.

References

1 Trilane Industries vs Queenstown Lakes District Council (2020)

2 Purves et al (2001): The retinotopic representation of the visual field in *Neuroscience 3rd edition p263*

3 Simpson, M J (2017): Mini-Review: Far Peripheral Vision in *Vision Research vol 149 p96*

4 Boffa Miskell (2016): Technical Review of Visual Effects *Christchurch City Council*

Address	Existing	Consented	Permitted
Moorhouse Avenue East			
60 (Grove)	Existing 32m2 double-sided digital billboard consented under RMA/2015/3596.	N/A	N/A - Site already contains consented digital billboard.
30	N/A	N/A	N/A - Site does not have sufficient frontage to accommodate a billboard.
420-422	Existing 32m2 digital billboard consented under RMA/2020/211.	N/A	N/A - Commercial Central City Mixed Use Zone.
32	N/A	N/A	N/A - Likely that any billboard location on this site would be directly visible from residential zone across the other side of Moorhouse Avenue.
21	N/A	N/A	N/A - Residential Central City Zone.
38	N/A	N/A	This site could accommodate up to two single-sided or two double-sided 18m2 static or digital billboards as a permitted activity under P15 (subject to compliance with all of the activity specific standards).
23	N/A	N/A	N/A - These sites do not have sufficient frontage to accommodate a billboard.
25	N/A	N/A	
27	N/A	N/A	
31	N/A	N/A	
35	N/A	Consented 18m2 single-sided digital billboards (2) OR double-sided billboard under RMA/2018/753.	N/A - Site already contains consented digital billboard.
45	N/A	N/A	N/A - Likely that any billboard location on these sites would be located within 50m setback from Moorhouse Avenue / Selwyn Street signalised intersection.
51	N/A	N/A	
61	N/A	N/A	
40	N/A	N/A	This site could accommodate up to two single-sided or two double-sided 18m2 static or digital billboards as a permitted activity under P15 (subject to compliance with all of the activity specific standards). Worth noting that these would have to be located outside of 50m setback from the Moorhouse Avenue / Selwyn Street signalised intersection.
Moorhouse Avenue West			
28	N/A	N/A	N/A - [see below]
26	Existing 18m2 double-sided digital billboard under RMA/2018/1859.	N/A	N/A - Existing double-sided digital billboard already located on this site. Not sufficient frontage to accommodate any further billboards.
24	N/A	N/A	N/A - Commercial Office Zone.
2/22	N/A	N/A	
1/22	N/A	N/A	
20	N/A	N/A	
12	N/A	N/A	
6	Existing double-sided static billboard. No consent history and size unknown.	N/A	
Lincoln Road			
410	N/A	N/A	This site could accommodate up to two single-sided or two double-sided 18m2 static or digital billboards as a permitted activity under P15 (subject to compliance with all of the activity specific standards). Worth noting that billboards would have to be located outside of 50m setback from the Moorhouse Avenue / Lincoln Road / Grove Road signalised intersection.
390	N/A	N/A	N/A - These sites do not have sufficient frontage to accommodate a billboard.
386	Existing 18m2 static billboard under RMA/2000/430.	N/A	N/A - Likely that any billboard location on this site would be located within 50m setback from Lincoln Road / railway signalised intersection.
363	Existing 18m2 static billboard under RMA/2012/672.	N/A	N/A - These sites do not have sufficient frontage to accommodate a billboard.
28 (Moorhouse)	Existing static billboard under RMA/1991/505. Size unknown.	N/A	
7 (Hazeldean)	Existing static billboards (2) under RC953599. Consent allowed four billboards in total, two with dimensions of 6m x 3m, and two of which had dimensions of 12.8m x 3.5m. Based on satellite imagery, the consent was implemented by 2004, with a total of four signs on the site at that time. Since then, two of the billboards have been removed.	N/A	N/A - Commercial Office Zone.
Railway corridor	Existing static billboards (2) under RC953602. Sizes unknown.	N/A	N/A - Transport Zone.
4 (Hazeldean)	N/A	N/A	N/A - Commercial Office Zone.
2 (Hazeldean)	N/A	N/A	
359B	Existing double-sided static billboard under RC953602. Size unknown.	N/A	N/A - Site already contains existing static billboard.
359A	N/A	N/A	N/A - Site does not have sufficient frontage to accommodate a billboard.
359	Existing static billboard under RMA/2007/618. Size unknown.	N/A	N/A - Site already contains existing static billboard.

372	N/A	N/A	This site could accommodate up to two single-sided or two double-sided 18m2 static or digital billboards as a permitted activity under P15 (subject to compliance with all of the activity specific standards). Worth noting that very little of the site is located outside of the 50m setback from the Lincoln Road / Harman Street signalised intersection.
351	N/A	N/A	This site could accommodate up to two single-sided or two double-sided 18m2 static or digital billboards as a permitted activity under P15 (subject to compliance with all of the activity specific standards).
350	N/A	N/A	This site could accommodate either one single-sided or one double-sided 18m2 static or digital billboard as a permitted activity under P15 (subject to compliance with all of the activity specific standards).
348	N/A	N/A	N/A - These sites do not have sufficient frontage to accommodate a billboard.
346	N/A	N/A	
344	N/A	N/A	
342	N/A	N/A	
335	N/A	N/A	This site could accommodate either one single-sided or one double-sided 18m2 static or digital billboard as a permitted activity under P15 (subject to compliance with all of the activity specific standards).

6.8.2 Objectives and Policies

6.8.2.1 Objective - Signage

a. Signage collectively contributes to Christchurch's vitality and recovery by:
   i. supporting the needs of business, infrastructure and community activities;
   ii. maintaining public safety; and
   iii. enhancing the visual amenity values and character of the surrounding area, building or structures.

6.8.2.1.1 Policy - Enabling signage in appropriate locations

a. Enable signage:
   i. as an integral component of commercial and industrial environments, strategic infrastructure and community activities throughout the Christchurch District; and
   ii. that is necessary for public health and safety and to provide direction to the public.

6.8.2.1.2 Policy - Controlling signage in sensitive locations

a. Ensure the character and amenity values of residential, open space and rural zones are protected from adverse visual and amenity effects from large areas or numbers of signs, or off-site signs within these zones.

6.8.2.1.3 Policy - Managing the potential effects of signage

a. In considering Policies 6.8.2.1.1 and 6.8.2.1.2, ensure that the size, number, height, location, design, appearance and standard of maintenance of signs:
   i. do not detract from, and where possible contribute to, the character and visual amenity of the surrounding area and public realm;
   ii. integrate within the façade of the building, do not detract from the integrity of the building design, and maintain the building as the primary visual element;
   iii. are in proportion to the scale of buildings and the size of the site; and
   iv. enhance the Central City.

6.8.2.1.4 Policy - Transport safety

a. Ensure that signs do not cause obstruction and/or distraction for motorists and pedestrians and other road users.

6.8.2.1.5 Policy - Temporary signage and signage managed by other agencies

a. Enable temporary signage subject to meeting basic activity and built form standards.
b. Enable signage required or controlled through other legislation or government agencies.

6.8.2.1.6 Policy - Managing off-site signage

a. Limit off-site signs in the sensitive zones specified in Policy 6.8.2.1.2 and to enable such signage where it:
   i. is compatible with the surrounding environment and is located within a commercial or industrial context;
   ii. is appropriately maintained;
   iii. will not cause or contribute to visual clutter and other cumulative adverse effects; and
   iv. is consistent with the outcomes sought in Policy 6.8.2.1.3.

6.8.5.3 Static and digital billboards

a. Whether the scale, design, colour, location and nature of the billboard will have impacts on the architectural integrity, amenity values, character, visual coherence, and heritage values of:
   i. the building and the veranda on which the billboard is displayed and its ability to accommodate the signage;
   ii. the surrounding area (including anticipated changes in the area);
   iii. residential activities; and
   iv. heritage items or heritage settings, open spaces, protected trees or areas possessing significant natural values.

b. Whether the extent of the impacts of the billboard are increased or lessened due to:
   i. the design, dimensions, nature and colour of the sign or support structure;
   ii. the level of visibility of the billboard; and
   iii. vegetation or other mitigating features.

c. Whether the billboard combines with existing signage on the building, the site or in the vicinity, to create visual clutter or set a precedent for further similar signage.

d. Whether the billboard:
   i. enlivens a space or screens unsightly activities; and
   ii. will result in an orderly and coordinated display.

e. Whether the extent of the impacts of the billboard are increased or lessened due to:
   i. the frequency and intensity of intermittent or flashing light sources, and the proposed periods of illumination and frequency of image changes;
   ii. the prominence of the billboard due to its illuminated or animated nature and ability to draw the eye;
   iii. the nature of surrounding land use activities;.
   iv. the proximity of the display to other properties and the likely effects of such intermittent or flashing lights or changing images upon those properties and their occupants; and
   v. The potential of the billboard to cause distraction or confusion to motorists in their observance of traffic conditions, directions or controls.

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BALDASSO CORTESE NOORDANUS

WORK IN PROGRESS

LUMO

PROJECT TITLE
LUMO DIGITAL BILLBOARD
399 LINCOLN ROAD, ADDINGTON
CHRISTCHURCH

DRAWING TITLE
BASELINE SITE PLAN
MOORHOUSE

NORTH

DATE
27/02/2020

PROJECT NO
20190009

DRAWING NO
A.1.05

CLIENT
LUMO DIGITAL

FILE NO
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CHRISTCHURCH

DRAWING TITLE
BASELINE SITE PLAN LINCOLN

NORTH

DATE
27/02/2020

PROJECT NO
20190009

DRAWING NO
A.1.06

CLIENT
LUMO DIGITAL

FILE NO
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