Parramatta Road, Auburn
Signage Safety Assessment

Prepared for:

JCDecaux

29 May 2024

The Transport Planning Partnership

Parramatta Road, Auburn
Signage Safety Assessment

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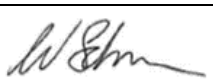
V04	29/05/2024	Tim Zhang	James Goodman	Wayne Johnson	

Table of Contents

Tables

Figures

APPENDICES

A. CONCEPT DESIGN PLANS

B. STATE ENVIRONMENTAL PLANNING POLICY (INDUSTRY AND EMPLOYMENT) – SCHEDULE 5

C. ASSESSMENT AGAINST CURRENT STRUCTURAL CODES

1 Introduction

1.1 Overview

JCDecaux is seeking to renew the permit for large format static advertising signs located on both sides of a pedestrian bridge above Parramatta Road, Auburn. The signs are mounted on a pedestrian bridge above Parramatta Road facing westbound and eastbound travel lanes.

The signage was approved on 1 December 2008 by the Department of Planning (DA-63-7-2008), the signage was subsequently installed in April 2010.

The Transport Planning Partnership (TTPP) has been commissioned by JCDecaux to undertake a signage safety assessment. This assessment has been carried out in accordance with Department of Planning's Transport Corridor Outdoor Advertising and Signage Guidelines, November 2017 (Guidelines) and Chapter 3 of State Environmental Planning Policy (Industry and Employment) 2021 (Industry and Employment SEPP).

The Guidelines outline best practice for the planning and design of outdoor advertisements in transport corridors. The Industry and Employment SEPP sets out rules regarding outdoor advertising signage for permissible locations and exempt developments.

1.2 Purpose of this Report

The aim of this assessment is to determine the suitability of renewing the permit for the existing static advertising signs and provide recommendations on mitigation measures to alleviate impacts on the surrounding road network. This report sets out the findings of TTPP's signage safety assessment for the static signs above Parramatta Road in Auburn.

The following items have been considered in this report:

- Potential for the signs to obstruct or distract a driver's view of the road, traffic control devices, and merge/diverge points at entry and exit ramps.
- Distance from upstream or downstream decision points such as merge and diverge points.
- Potential for the signs to distract at a critical or for an extended period of time.
- Location relative to the carriageway and its potential to be a physical obstruction for vehicles or other road users.
- Location in relation to other signage.

1.3 References

In preparing this report, reference has been made to the following:

- A site inspection of the site from a driving viewpoint along Parramatta Road in both directions and on all approaches to Parramatta Road in close proximity to the site was undertaken on Thursday 2 November 2023.
- Austroads Guide to Road Design Part 3, Geometric Design, 2016.
- Austroads Guide to Road Design Part 4A, Unsignalised and Signalised Intersections, 2017.
- Transport Corridor Outdoor Advertising and Signage Guidelines, November 2017 by Department of Planning and Environment.
- State Environment Planning Policy (Industry and Employment) 2021.
- Development Application stamped plans for the proposed static advertising signs dated 08 November 2023.

2 Proposal Description

2.1 Location Details

The permit for the existing static advertising signs mounted on both sides of the pedestrian bridge above Parramatta Road are proposed to be renewed. The signage faces westbound and eastbound traffic travelling on Parramatta Road.

The signs are located approximately 30m east of the signalised intersection of Parramatta Road and Macquarie Road, 220m west of the signalised intersection of Parramatta Road and Station Road. Between Stubbs Street and Station Road, Parramatta Road is a 40km/h School Zone between 8am to 9:30am and 2:30pm to 4pm on school days. The posted speed limit of 60km/h applies at all other times.

An aerial image of the signage location and surrounding environs is shown in Figure 2.1.

Figure 2.1: Signage Location

Basemap source: NearMap, aerial imagery dated 12 August 2023

2.2 Description of Signage

As per the Industry and Employment SEPP, the advertising display area is defined as follows:

> *"advertising display area means, subject to subsection (2), the area of an advertisement or advertising structure used for signage, and includes any borders of, or surrounds to, the advertisement or advertising structure, but does not include safety devices, platforms or lighting devices associated with advertisements or advertising structures"*

On the above basis, the advertising display area for both signs are to remain as per the existing dimensions, with an area of 36m^2 (20m width by 1.8m height) for each sign.

The signage will be used by JCDecaux to continue promoting its sponsors and third-party advertising. The static signage will contain text and images. The development application plans for the proposed static advertising signage are contained in Appendix A.

2.3 Signage Exposure

2.3.1 Parramatta Road Westbound Approach

The existing static advertising sign is visible to motorists travelling westbound on Parramatta Road, as shown in Figure 2.2.

Figure 2.2: Parramatta Road Westbound Approach

Basemap source: NearMap, aerial imagery dated 12 August 2023

A site visit was undertaken on Thursday 2 November 2023 to inspect driver sight distances to the existing static advertising sign and observe any potential crash hazards that could be caused by the sign. A description of the site investigation findings is provided herein.

The lane configuration on the Parramatta Road westbound carriageway in the vicinity of the existing static advertising sign is shown in Figure 2.7.

Figure 2.3: Parramatta Road Westbound Approach Lane Configuration

Source: Photograph taken by TTPP dated 2 November 2023

- The sign is visible to motorists on Parramatta Road travelling westbound.
- There is no other large format static or digital advertising signage within 150m of the existing sign location.
- Treating the observed conditions during the site inspection as the typical conditions in the area, the sign is completely visible from each traffic lane as follows:
  - In Lane 1 (through lane), 410m from the sign.
  - In Lane 2 (through lane), 420m from the sign.
- The distance at which the sign would be readable from both travel lanes is approximately 110m from the sign on approach.
- No significant road safety issues associated with the existing static sign were observed.
- Due to the number of heavy vehicles on Parramatta Road the sign was frequently partially obscured by trucks.
- Within 200m on approach to the sign, Parramatta Road is subject to a 40km/h School Zone restriction, the posted speed limit of 60km/h applies at all other times.
- The sign is out of driving view approximately 10m east of the sign.

The likely visible distance and readable distance in each lane on approach to the sign is shown in Figure 2.4 and Figure 2.5.

Figure 2.4: Westbound Approach Sign Exposure – Lane 1

Source: Photograph taken by TTPP dated 2 November 2023

Figure 2.5: Westbound Approach Sign Exposure – Lane 2

Source: Photograph taken by TTPP dated 2 November 2023

2.3.2 Parramatta Road Eastbound Approach

The existing static advertising sign is visible to motorists travelling eastbound on Parramatta Road, as shown in Figure 2.2.

Figure 2.6: Parramatta Road Eastbound Approach

Basemap source: NearMap, aerial imagery dated 12 August 2023

A site visit was undertaken on Thursday 2 November 2023 to inspect driver sight distances to the existing sign and observe any potential crash hazards that could be caused by the sign. A description of the site investigation findings is provided herein.

The lane configuration on the Parramatta Road eastbound carriageway in the vicinity of the existing sign is shown in Figure 2.7. Travel lanes are numbered 1 to 3 from left to right, with Lane 3 being the right turn lane onto Macquarie Road.

Figure 2.7: Parramatta Road Eastbound Approach Lane Configuration

Source: Photograph taken by TTPP dated 2 November 2023

- The sign is visible to motorists on Parramatta Road travelling eastbound.
- There is no other large format static or digital advertising signage within 150m of the existing sign location.
- The sign is obscured by the crest on approach to the sign and becomes visible from both through lanes at a distance of 190m from the sign.
- The distance at which the sign would be readable from both through travel lanes is approximately 110m from the sign on approach.
- Lane 3 (right turn lane) is approximately 60m long and commences 110m from the sign.
- The sign would be visible and readable for the full length of Lane 3.
- No significant road safety issues associated with the existing static sign were observed.
- Within 180m on approach to the sign, Parramatta Road is subject to a 40km/h School Zone restriction, the posted speed limit of 60km/h applies at all other times.
- The sign is out of driving view approximately 10m west of the sign.

The likely visible distance and readable distance in each lane on approach to the sign is shown in Figure 2.8 to Figure 2.10.

Figure 2.8: Eastbound Approach Sign Exposure – Lane 1

Source: Photograph taken by TTPP dated 2 November 2023

Figure 2.9: Eastbound Approach Sign Exposure – Lane 2

Source: Photograph taken by TTPP dated 2 November 2023

Figure 2.10: Eastbound Approach Sign Exposure – Lane 3

Source: Photograph taken by TTPP dated 2 November 2023

2.4 Macquarie Road – Parramatta Road Intersection Upgrade

Since the approval of the existing static sign in 2008, and subsequent installation in April 2010, the Parramatta Road and Macquarie Road intersection was upgraded from a priority-controlled intersection to a signalised intersection.

This upgrade occurred in 2013 and involved the following:

- Converting an eastbound travel lane on Parramatta Road to a right turn lane into Macquarie Road. This lane was replaced by a concrete median, east of the Macquarie Road / Parramatta Road intersection.
- Removing a westbound travel lane and widening the two existing westbound travel lanes.
- Providing signalised pedestrian crossings on all legs of the intersection.

Later, in early 2017, the pedestrian legs across Parramatta Road were removed (with the signalised pedestrian crossing on Macquarie Road retained). The concrete median was consequently extended to accompany these changes.

Figure 2.11 shows the original layout of the road on approach to the signage at the time the signage was installed, and Figure 2.12 shows the layout at the time of this assessment (i.e. current conditions).

Figure 2.11: Parramatta Road and Macquarie Road Intersection – At Time of Signage Installation

Basemap source: NearMap, aerial imagery dated 22 April 2010

Figure 2.12: Parramatta Road and Macquarie Road Intersection – Existing (Current) Conditions

Basemap source: NearMap, aerial imagery dated 20 June 2023

2.5 Crash History

Historic crash data has been obtained from Transport for NSW (TfNSW) and assessed for incidents on Parramatta Road within the viewable distance of both existing signs.

Crash history data has been assessed in the eastbound and westbound direction from the oldest data available (January 1996) to the most recent data available (30 June 2023). Crash data records prior to 2005 do not show the degree of injury, so for the purposes of this assessment crashes were classified as either "non-casualty (tow-away)" or "injury" to ensure the data remains consistent across all periods.

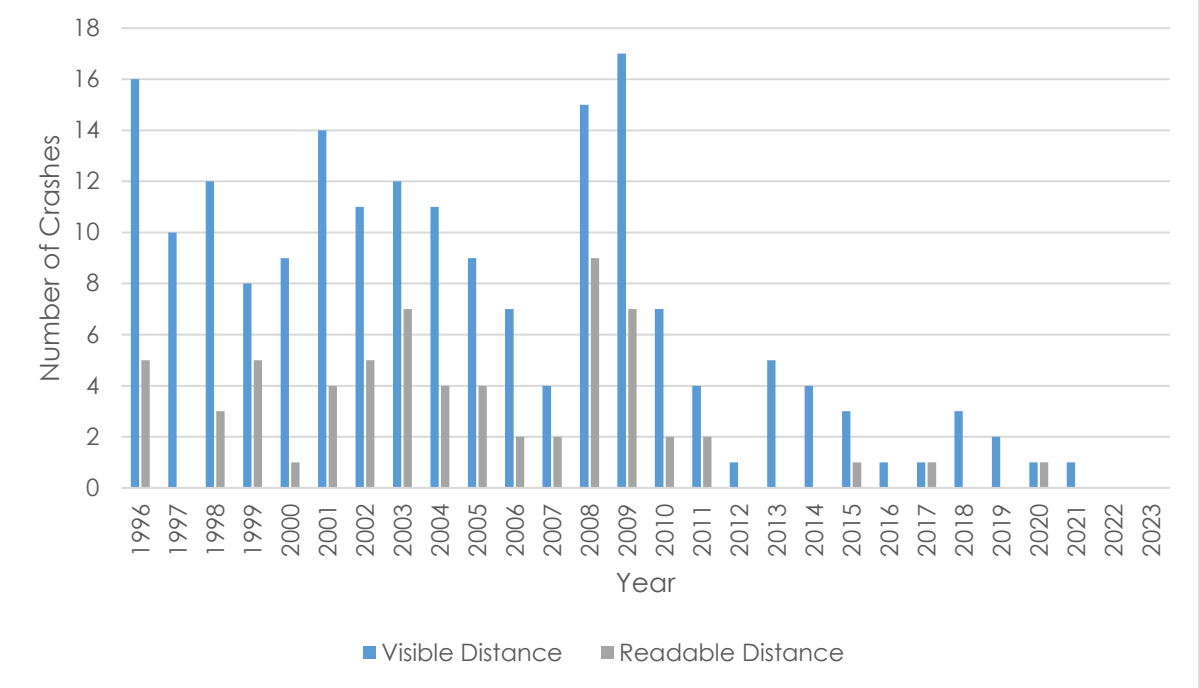
Crash history data has been assessed the following periods:

- **Pre-installation period:** January 1996 to April 2010
- **Post installation period (prior Macquarie Road intersection upgrades):** April 2010 to January 2013
- **Post installation period (post Macquarie Road intersection upgrades):** July 2019 to June 2023 (more recent 5-year period)

2.5.1 Parramatta Road Westbound Approach

A breakdown of the volume of crashes by year within the visible distance (420m) and readable distance (110m) of the existing static advertising sign is presented in Figure 2.11. Of note, the existing sign was installed in April 2010.

Figure 2.13: Crash History by Year – Westbound Approach



A comparison of crashes pre-installation and during operation of the existing static advertising sign in the westbound direction is presented in Table 2.1. This data has also been reviewed against the readable distance of the sign location (i.e. 110m away from the sign) and within the visible distance (i.e. 420m away from the sign). The table also provides the average crash rate per year for each period.

Table 2.1: Crash History – Westbound Approach

Time	Crash Severity (No. of Crashes)					
	Injury	Injury per year	Non-casualty (tow-away)	Non-casualty (tow-away) per year	Total	Total per year
Within visible distance = 420m						
Pre-installation (January 1996 – April 2010)	62	4.30	97	6.73	159	11.03
Post-installation, prior Macquarie Road intersection upgrades (April 2010 – January 2013)	4	1.45	4	1.45	8	2.91
Post-installation, post Macquarie Road intersection upgrades (January 2013 – June 2023)	13	1.24	8	0.76	21	2.00
Total	**79**	**2.85**	**109**	**3.93**	**188**	**6.77**
Within readable distance = 110 m						
Pre-installation (January 1996 – April 2010)	20	1.39	39	2.71	59	4.09
Post-installation, prior Macquarie Road intersection upgrades (April 2010 – January 2013)	1	0.36	2	0.73	3	1.09
Post-installation, post Macquarie Road intersection upgrades (January 2013 – June 2023)	2	0.19	1	0.10	3	0.29
Total	**23**	**0.83**	**42**	**1.51**	**65**	**2.34**

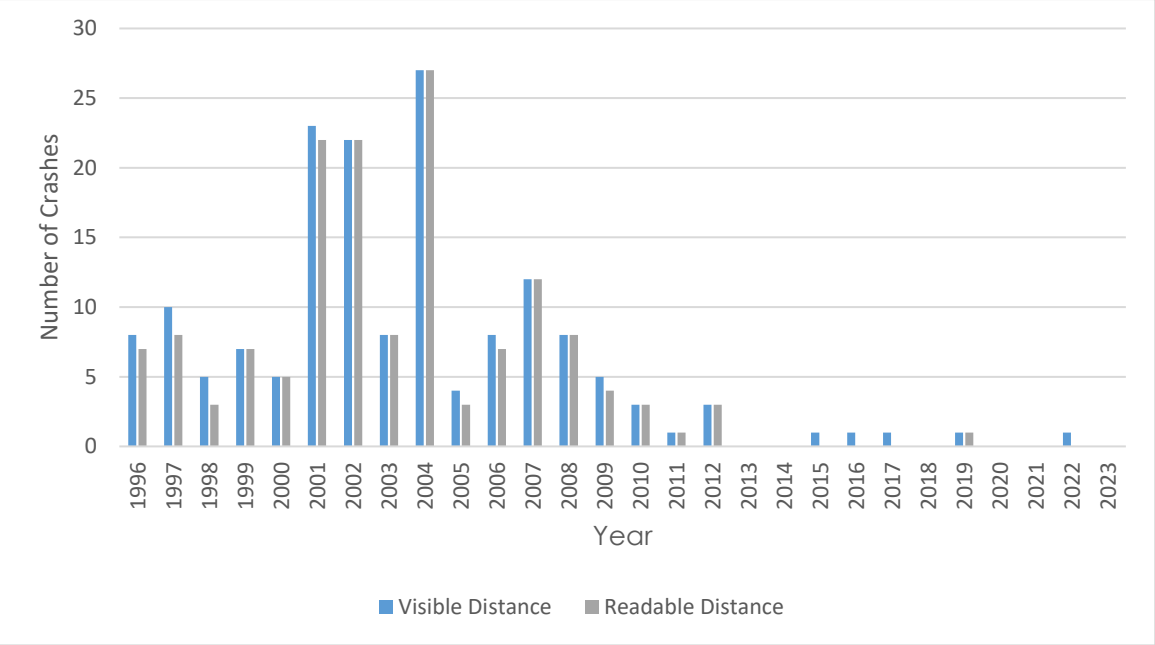
Figure 3.1 and Table 2.1 indicate that the overall number of crashes on Parramatta Road in the westbound direction on approach to the sign has not increased following installation of the sign. In fact, crash data has on average decreased since the installation of the sign, decreasing from 11.03 crashes per year within the visible distance to 2.91 crashes per year until the intersection upgrade, where the crash rate continued to decrease to 2.0 crashes per year based on the most recent five-year period (i.e. January 2013 to January 2023).

On this basis, the crash data does not indicate that the existing static advertising sign has had a negative impact on road safety, nor resulted in any decrease in road safety in the immediate vicinity of the site.

2.5.2 Parramatta Road Eastbound Approach

A breakdown of the volume of crashes by year within the visible distance (190m) and readable distance (110m) of the site is presented in Figure 2.11. Of note, the existing static advertising sign was installed in April 2010.

Figure 2.14: Crash History by Year – Eastbound Approach



A comparison of crashes pre-installation and during operation of the existing static advertising sign in the eastbound direction is presented in Table 2.1. This data has also been reviewed against the readable distance of the sign location (i.e. 110m away from the sign) and within the visible distance (i.e. 190m away from the sign). The table also provides the average crash rate per year for each period.

Table 2.2: Crash History – Eastbound Approach

Time	Crash Severity (No. of Crashes)					
	Injury	Injury per year	Non-casualty (tow-away)	Non-casualty (tow-away) per year	Total	Total per year
Within visible distance = 190m						
Pre-installation (January 1996 – April 2010)	42	2.91	111	7.70	153	10.61
Post-installation, prior Macquarie Road intersection upgrades (April 2010 – January 2013)	2	0.73	4	1.45	6	2.18
Post-installation, post Macquarie Road intersection upgrades (January 2013 – June 2023)	2	0.19	3	0.29	5	0.48
Total	**46**	**1.66**	**118**	**4.25**	**164**	**5.91**
Within readable distance = 110 m						
Pre-installation (January 1996 – April 2010)	41	2.84	103	7.14	144	9.99
Post-installation, prior Macquarie Road intersection upgrades (April 2010 – January 2013)	2	0.73	4	1.45	6	2.18
Post-installation, post Macquarie Road intersection upgrades (January 2013 – June 2023)	0	0.00	1	0.10	1	0.10
Total	**43**	**1.55**	**108**	**3.89**	**151**	**5.44**

Similarly, Figure 2.14 and Table 2.2 indicate that the overall number of crashes on Parramatta Road in the eastbound direction has not increased following installation of the site. Crash data within the visible distance of the sign has on average decreased from 10.61 crashes per year to 2.18 crashes per year after installation of the sign. This has further declined to 0.48 crashes per year since the upgrade of Parramatta Road / Macquarie Road.

Therefore, the crash data does not indicate that the existing sign has had a negative impact on road safety, nor resulted in any decrease in road safety in the immediate vicinity of the site.

3 Statutory Requirements

This section of the report assesses the compliance with the safety assessment criteria established in the NSW Guidelines and State Environmental Planning Policy (Industry and Employment) 2021. It requires analysis as to whether the proposal would reduce the safety of:

- Any public roads
- Pedestrians and cyclists.
- Pedestrians by obscuring sight lines from public areas.

The existing design which will remain consistent in the future has been assessed against the relevant statutory requirements and guidelines. In order to assess any road facing sign against the key safety assessment criteria, a series of detailed criteria are set out in Section 3.2 *Advertisements and Road Safety* of the NSW Guidelines.

3.1 Industry and Employment SEPP Schedule 5

Clauses 1 to 7 of the Industry and Employment SEPP – Schedule 5 refer to aspects that are unrelated to road safety, as outlined in Appendix B. However, Clause 8 is related to road safety, and thus, is covered under this signage safety assessment as follows:

a) ***Would the proposal reduce the safety for any public road?***
b) ***Would the proposal reduce the safety for the pedestrians or bicyclists?***
c) ***Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?***

Provision of the existing static advertising signs on both sides of the pedestrian bridge above Parramatta Road is unlikely to reduce safety for motorists, pedestrians or cyclists. There will be no changes to the location or size of the existing static advertising signage in the future.

Assessment of the proposal in accordance with the Department of Planning's Transport Corridor Outdoor Advertising and Signage Guidelines has been undertaken in the following Section.

3.2 Transport Corridor Outdoor Advertising and Signage Guidelines – Digital Signs Criteria (Section 2 of Guidelines)

The Transport Corridor Outdoor Advertising and Signage Guidelines specify criteria which are directly applicable to the assessment of signs mounted on bridges. The criteria have been assessed in Table 3.1.

Some of the criteria are related to signage content and would need to be addressed by the operator.

Table 3.1: Bridge Signage Criteria (Section 2 of Guidelines)

Criteria		Comments
A	The architecture of the bridge must not be diminished.	The existing signage is considered to be compatible with the form and scale of the bridge structure. The proposal will not alter the existing signage and will therefore will not detract from the structural qualities of the bridge.
B	The advertisement must not extend laterally outside the structural boundaries of the bridge.	The existing signage is located wholly within the structural boundaries of the bridge.
C	The advertisement must not extend below the soffit of the superstructure of the bridge to which it is attached, unless the vertical clearance to the base of the advertisement from the roadway is at least 5.8m.	The advertisement does not extend below the soffit of the Parramatta Road bridge.
D	On a road or pedestrian bridge, the advertisement must: *i.* not protrude above the top of the structural boundaries of the bridge *ii.* not block significant views for pedestrians or other bridge users (e.g. cyclists) *iii.* not create a tunnel effect, impede passive surveillance, or in any other way reduce safety for drivers, pedestrians or other bridge users.	The positioning of the signage on the Parramatta Road pedestrian bridge: • does not protrude above the top of the existing structural boundaries of the bridge/advertising structure • does not block significant views for pedestrians or other bridge users including cyclists being a railway bridge • does not create a tunnel effect, impede passive surveillance, or in any other way reduce safety for drivers, pedestrians or other bridge users.
E	Paragraphs (a) to (d) above do not apply to the continuation of the display of any existing advertising on bridges approved prior to the gazettal of State Environmental Planning Policy No 64 (Advertising and Signage) (Amendment No 2) in 2007 for only one additional period under SEPP 64 Clause 14 if there is no increase in the advertising display area of the signage	N/A
F	A DCP to display an advertisement on a bridge must be accompanied by a statement demonstrating how the advertisement will contribute to a public benefit. Section 4 outlines the public benefit test requirements.	This application does not require the preparation of a site-specific DCP.
G	Any advertising sign proposed for development on a bridge over a classified road requires that construction drawings be submitted for review and approval by RMS	Construction drawings were prepared and submitted as part of the original application.

Criteria		Comments
	bridge engineers prior to construction to ensure all road safety requirements are met.	
H	Any advertising sign proposed for development on a bridge over a road requires provision of a fall arrest system (sign and sign support structure to bridge) to ensure the sign will not detach in case of impact by an over high vehicle.	A fall arrest system has been implemented as part of the design to ensure the sign will not detach in the event of impact by an over height vehicle.

3.3 Transport Corridor Outdoor Advertising and Signage Guidelines (Section 3 of Guidelines)

3.3.1 Signage Location Criteria

3.3.1.1 Road Clearance

(a) The advertisement must not create a physical obstruction or hazard. For example:

- ***i. Does the sign obstruct the movement of pedestrians or bicycle riders? (e.g. telephone kiosks and other street furniture along roads and footpath areas).***
- ***ii. Does the sign protrude below a bridge or other structure so it could be hit by trucks or other tall vehicles? Will the clearance between the road surface and the bottom of the sign meet appropriate road standards for that particular road?***
- ***iii. Does the sign protrude laterally into the transport corridor so it could be hit by trucks or wide vehicles?***

The existing signage does not physically obstruct any vehicle, pedestrian and cyclist movements as it is placed on both sides of the pedestrian bridge above Parramatta Road.

The signage does not protrude below the underside of the overhead bridge and hence the vertical clearance from the roadway to the bridge is maintained.

(b) Where the sign supports are not frangible (breakable), the sign must be placed outside the clear zone in an acceptable location in accordance with Austroads Guide to Road Design (and RMS supplement) or behind an RMS-approved crash barrier.

The signage is installed on both sides of the pedestrian bridge, which is positioned above the carriageway and outside of the clear zone. Hence, it would not require an RMS-approved crash barrier.

(c) Where a sign is proposed within the clear zone but behind an existing RMS-approved crash barrier, all its structures up to 5.8m in height (relative to the road level) are to comply with any applicable lateral clearances specified by Austroads Guide to Road Design (and RMS supplements) with respect to dynamic deflection and working width.

The signage is not located within the clear zone.

The available vertical clearance between the road surface and the underside of the pedestrian bridge would be maintained.

(d) All signs that are permitted to hang over roads or footpaths should meet wind loading requirements as specified in AS1170.1 and AS1170.2. All vertical clearances as specified above are regarded as being the height of the sign when under maximum vertical deflection.

The existing signage has been approved and designed in accordance with Australian Standards AS1170.1 and AS1170.2 to meet the requirements for wind loading, whilst having consideration for the height of the sign boards when under maximum vertical deflection. An assessment of the existing sign against the current codes is included in Appendix C which demonstrates the signage structure is in accordance with current codes.

3.3.1.2 Line of Sight

(a) An advertisement must not obstruct the drivers view of the road particularly of other vehicles, bicycle riders or pedestrians at crossings.
(b) An advertisement must not obstruct a pedestrian or cyclist's view of the road.

The signage is positioned on the pedestrian bridge above Parramatta Road completely within the structure of the bridge. Therefore, the signage does not obstruct the drivers' view of the road or pedestrians and cyclists.

(c) The advertisement should not be located in a position that has the potential to give incorrect information on the alignment of the road. In this context, the location and arrangement of signs' structures should not give visual clues to the driver suggesting that the road alignment is different to the actual alignment. An accurate photo-montage should be used to assess this issue.

The position of the existing static adverting signage would not change. The proposed static advertising signage would remain at the same height as the existing overhead bridge which would not impede a driver's visibility on the alignment of the road. The signage does not indicate misleading information or information contrary to the existing roadway.

(d) The advertisement should not distract a driver's attention away from the road environment for an extended length of time. For example:
- ***i. The sign should not be located in such a way that the driver's head is required to turn away from the road and the components of the traffic stream in order to view its display and/or message. All drivers should still be able to see the road when viewing the sign, as well as the main components of the traffic stream in peripheral view.***
- ***ii. The sign should be oriented in a manner that does not create headlight reflection in the driver's line of sight. As a guideline, angling a sign five degrees away from right angles to the driver's line of sight can minimise headline reflections. On a curved road***

alignment, this should be checked for the distance measured back from the sign that a car would travel in 2.5 seconds at the design speed.

The signs are located within a driver's peripheral vision whilst travelling eastbound and westbound on Parramatta Road. Motorists are not required to turn their heads when observing the signage, and all motorists are able to see the road simultaneously when viewing the signage.

The positioning and angle of the signage is not expected to result in headlight reflection or glare.

3.3.1.3 Proximity to Decision Making Points and Conflict Points

(a) A sign should not be located:

i. Less than the safe sight distance from an intersection, merge points, exit ramp, traffic control signal or sharp curves.

As per Austroads Guide to Road Design Part 4A, the minimum safe stopping distance (SSD) is based on the travel speed and gradient of the road. At this location, the posted speed limit is 60km/h.

For the purpose of this assessment, an operating speed of 60 km/h has been used to calculate the safe stopping sight distance which is the sign posted speed limit on Parramatta Road. Also, it is the speed at which motorists were observed to be driving during the site inspection. According to the Austroads guide, the minimum safe stopping sight distance for a 60km/h speed zone is 64 m.

There is also an upwards slope towards the existing signage from both approaches as the signage is located on the crest of a hill. The average incline has been measured off Google Maps at approximate 5 percent for the westbound approach and 2 percent for the eastbound approach.

Where there is a slope on the approach, the Guideline specifies a grade correction factor be applied. In this case, a correction of 5m is subtracted from the 64m minimum SSD for the westbound approach, and 2m is subtracted from the eastbound approach. Therefore, the SSD towards the intersection would be 59m for the westbound approach, and 62m for the eastbound approach.

As detailed in Section 2.4, the road layout in the vicinity of the signage has changed since the sign's Development Application approval in 2008. The upgrade of Parramatta Road and Macquarie Road intersection into traffic signals since the Development Application approval has resulted in the signage now being located in close proximity to traffic signals.

The eastbound facing sign is located 50m beyond the stop line of the signalised intersection of Parramatta Road and Macquarie Road. Therefore, the sign is not within the SSD of this signalised intersection for eastbound traffic.

The westbound facing sign is located 25m from the stop line of the signalised intersection of Parramatta Road and Macquarie Road. However, from the site inspection the minimum visible distance to the sign for motorists is approximately 35m from the stop line, which is an additional 10m from the sign location, as shown in Figure 3.1.

Figure 3.1: Minimum Visible Distance

Source: Photographs taken by TTPP dated 2 November 2023

Therefore, the sign in the westbound direction would be located within the safe stopping sight distance of the signalised intersection of Parramatta Road and Macquarie Road. It is however noted that the existing sign has been operational for the entire time the traffic signals have been operational.

Furthermore, an analysis of the crash data in Section 2.5.1 shows that there has been a decrease in the rate of crashes since the sign's installation in April 2010.

Notwithstanding the above, there are several examples of advertising signs, including static and digital sign boards, located within the minimum safe stopping distance of signalised intersections. These examples are herein provided below.

A digital sign is located on the north side of a pedestrian bridge above King Georges Road in Beverley Hills, as shown in Figure 3.2.

The digital sign is located 55m north of the King Georges Road and Shorter Avenue signalised intersection. Given that King Georges Road has a speed limit of 60km/h, the minimum SSD is 64 m as per the Austroads Guide Part 3. The Traffic Control Signal plan for the intersection indicates that there is a downhill slope of 6.1 percent on the approach to the digital sign (i.e. King Georges Road north approach). Applying a grade correction of an additional 8m to the SSD on King Georges Road north approach is 72 m. As such, the digital sign is located within the minimum SSD as shown in Figure 3.3.

Figure 3.2: Existing Digital Sign on King George Road, Beverley Hills

Source: Google Streetview, imagery dated October 2020

Figure 3.3: Safe Stopping Sight Distance on King Georges Road

Map Source: Nearmap, aerial image dated 21 December 2021

Similarly, a digital sign has recently been installed on the south side of the pedestrian footbridge across Pacific Highway in Gordon. The digital sign is located approximately 40m south of the Pacific Highway and Dumaresq Street signalised intersection as shown in Figure 3.4. Pacific Highway has a posted speed limit of 60km/h, and therefore, the minimum stopping sight distance to the traffic signals on Pacific Highway south approach is 64m. Hence, the digital sign is located within the minimum stopping sight distance as shown in Figure 3.4.

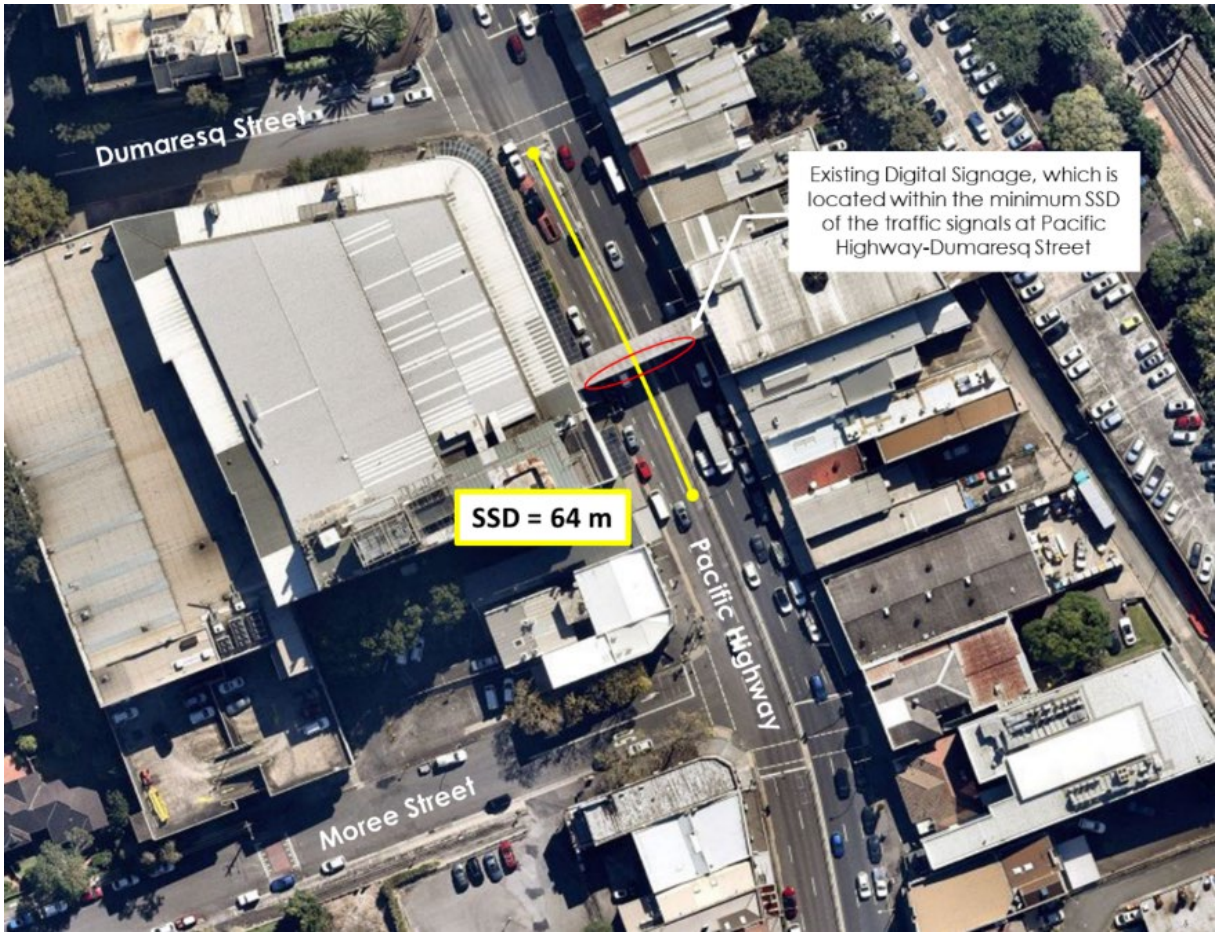
For the digital sign in Gordon, there was a Land and Environment Court proceeding (Captive Vision Pty Ltd v Ku-ring-gai Council (No 3) [2019] NSWLEC 1472) on 19-20 September 2019. An extract from the court transcripts where TfNSW's expert witness, Ms Samsa, was in support of the proposed digital sign is provided below:

- *EXPERT WITNESS SAMSA: Well it was more that there is – when I analysed the crash data, on both approaches there were obviously crashes for both approaches, but on the southbound approach there were more crashes in the approach to the pedestrian bridge than beyond it, whereas the opposite is for the northbound approach. So there's not a lot of crashes towards it, but after you pass the pedestrian bridge there's been crashes, a larger portion of crashes beyond it. So to me that suggests that there's something about that, that northern section around Dumaresq Street and beyond that is causing drivers issues, and I can't qualify what that is. It could be a number of factors, but to me that was just a bit of a, a point to go well I wonder what's happening here that's making it difficult for drivers to negotiate that particular section of road in particular that would be causing those crashes?*
- *SENIOR COMMISIONER: Do I understand your evidence is that you support the north or you don't?*
- *EXPERT WITNESS SAMSA: I would support the north approach.*
- *SENIOR COMMISSIONER: Irrespective of that conundrum about not understanding the after the sign area, is that right?*
- *EXPERT WITNESS SAMSA: I think, I think there's less of a chance for drivers to be distracted or to be thinking of a sign beyond once they've passed it.*
- *SENIOR COMMISSIONER: Okay, thank you.*
- *ASTILL: Just to clarify, you said north approach, you mean northbound commissioner?*
- *SENIOR COMMISSIONER: Yes, northbound.*

Figure 3.4: Existing Digital Sign on Pacific Highway, Gordon

Source: Photograph taken by TTPP on 24/05/2021

Figure 3.5: Safe Stopping Sight Distance on Pacific Highway



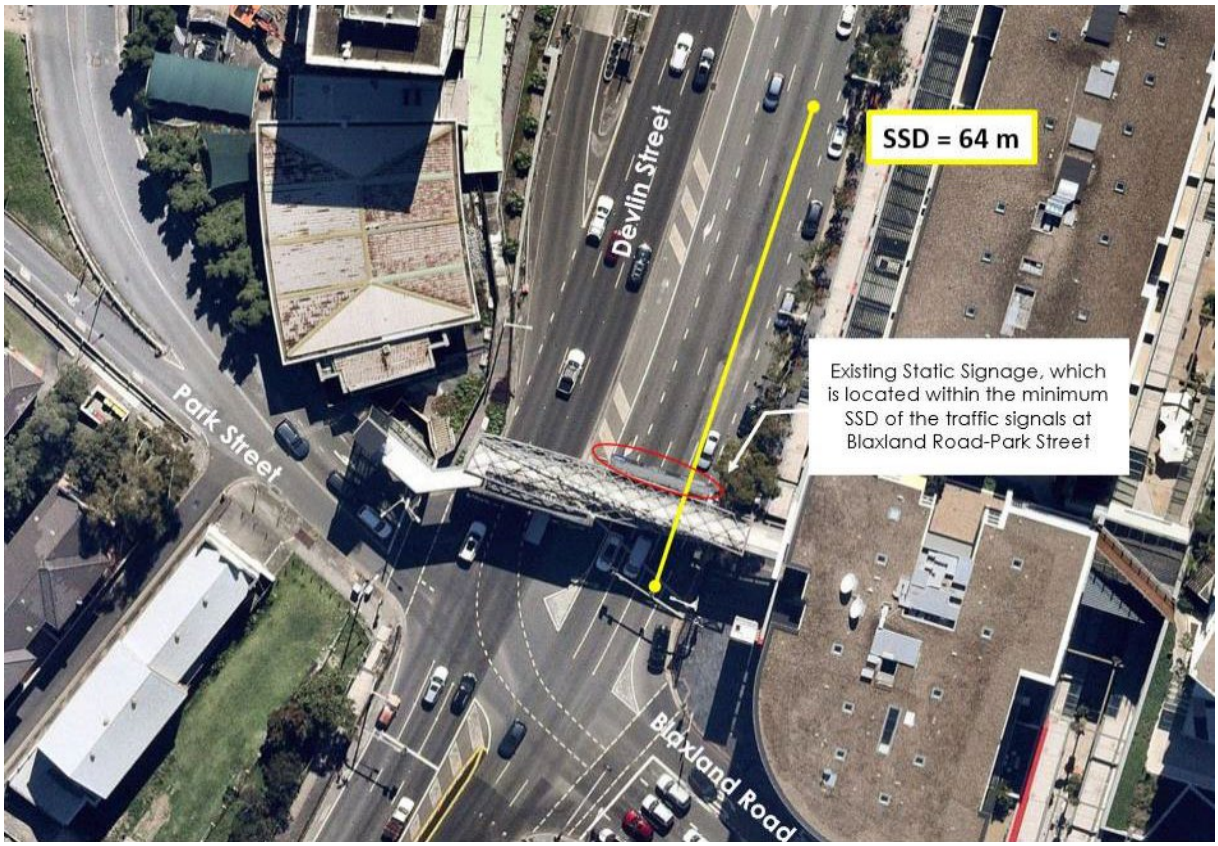
Map Source: Nearmap, aerial image dated 21 December 2021

Another example is an existing static sign located on the pedestrian bridge above Devlin Street in Ryde. The existing sign is located 14m north of the stop line at the Devlin Street, Parkes Street and Blaxland Road signalised intersection as shown in Figure 3.6. In the vicinity of the sign, Devlin Street is posted as 60km/h giving a minimum SSD of 64m. As such, the sign is located within the maximum SSD to the traffic signals as shown in Figure 3.7.

Figure 3.6: Existing Sign on Devlin Street, Ryde

Source: Google Streetview, imagery dated November 2020

Figure 3.7: Safe Stopping Sight Distance on Devlin Street



Map Source: Nearmap, aerial image dated 10 April 2021

Another example is the approved digital sign fixed above 343-345 Parramatta Road, Leichhardt facing westbound traffic on Parramatta Road. The existing static sign was approved in 1996 and has recently been approved for conversion to a digital sign. The sign is located 25m from the traffic signals. The driving view on approach to the traffic signals and signage is shown in Figure 3.8. The posted speed limit on Parramatta Road is 60km/h which gives a minimum SSD of 64m. Thus, the existing billboard is located less than the minimum SSD to the traffic signals as shown in Figure 3.9.

Figure 3.8: Existing Sign on Parramatta Road, Leichhardt

Source: Google Streetview, imagery dated February 2023

Figure 3.9: Safe Stopping Sight Distance on Parramatta Road

Map Source: Nearmap, aerial imagery dated 20 June 2023

Based on the above, there are several instances where there are existing advertising signs, including digital and static signage, located less than the minimum safe stopping sight distance to traffic signals. Technically speaking, the above examples are also non-compliant with the Transport Corridor Outdoor Guidelines.

However, like the Parramatta Road proposal, these signs do not and would not be expected to cause an unsafe level of distraction for motorists on approach to the respective traffic signals.

ii. Less than the safe stopping sight distance from a marked foot crossing, pedestrian crossing, pedestrian refuge, cycle crossing, cycleway facility or hazard within the road environment.

The signage is not located within the safe stopping sight distance of pedestrian and cyclist crossing facilities.

iii. So that it is visible from the stem of a T-intersection.

For the eastbound facing sign, the sign is not visible from the stem of any T-intersections other than the Macquarie Road intersection with Parramatta Road. Motorists waiting to turn onto Parramatta Road from Macquarie Road would have a heavily obscured view of the sign display. The driving view towards the sign is shown in Figure 3.10. It is also noted that turning movements from Macquarie Road onto Parramatta Road are protected turning movements controlled by the signals.

Figure 3.10: Motorist's View on Macquarie Road Approach

Source: Photograph taken by TTPP dated 2 November 2023.

The westbound facing sign would be heavily obscured from the T-intersection of Parramatta Road with Melton Street South. A similar obscured view is available from the T-intersection of Parramatta Road with Station Street when heading southbound. It is also noted that from both intersections the distance to the sign is beyond the 110m readable distance. The driving view from the stop line of Melton Street South and Station Road north approach towards the sign is shown in Figure 3.11 and Figure 3.12 respectively.

Figure 3.11: Motorist's View on Melton Street South Approach

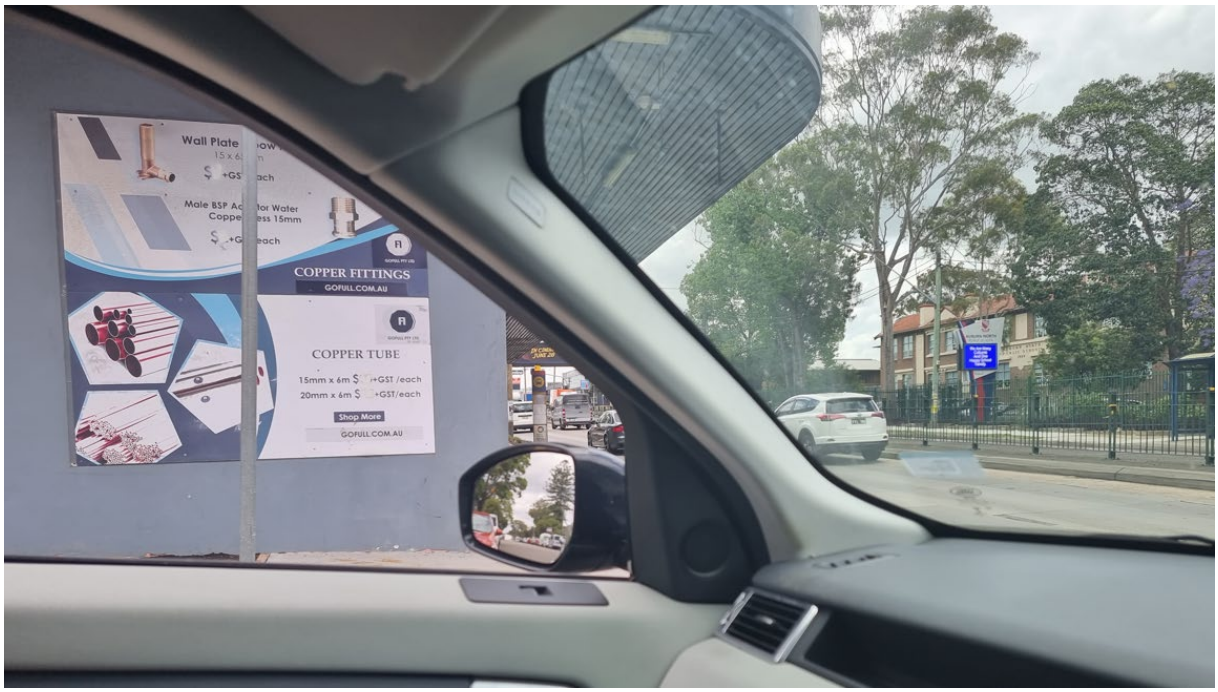
Source: Photograph taken by TTPP dated 2 November 2023.

Figure 3.12: Motorist's View on Station Street North Approach

Source: Photograph taken by TTPP dated 2 November 2023

The sign is not visible from the T-intersections of Station Road south approach and Northumberland Road as the view towards the sign is obscured by buildings. The driving view from the stop line of the Station Road south approach and Northumberland Road towards the sign is shown in Figure 3.11 and Figure 3.12 respectively.

Figure 3.13: Motorist's View on Melton Street South Approach



Source: Photograph taken by TTPP dated 2 November 2023.

Figure 3.14: Motorist's View on Station Street South Approach

Source: Photograph taken by TTPP dated 2 November 2023

(b) The placement of a sign should not distract a driver at a critical time. In particular, signs should not obstruct a driver's view:

- ***i. Of a road hazard,***
- ***ii. To an intersection,***
- ***iii. To a prescribed traffic control device (such as traffic signals, stop or give way signs or warning signs)***
- ***iv. To an emergency vehicle access point or Type 2 driveways (wider than 6-9 metres) or higher.***

A "critical time" is understood to refer to a point in time when a driver's decision is required implying that a road safety implication could occur if a driver was distracted at this time.

The signage is fixed on the pedestrian bridge and is completely within the structure of the bridge, therefore, the signage does not obstruct a motorist's view of any traffic signals, signage, and other traffic hazards when travelling on Parramatta Road in the westbound or eastbound direction.

3.3.1.4 Sign Spacing

(a) Sign spacing should limit drivers view to a single view to a single sign at any given time with a distance of no less than 150m between signs in any one corridor. Exemptions for low speed, high pedestrian zones or CBD zones will be assessed by RMS as part of their concurrence role.

There are no other large format static or digital signs within 150 m of the static sign facing traffic in the westbound or eastbound direction.

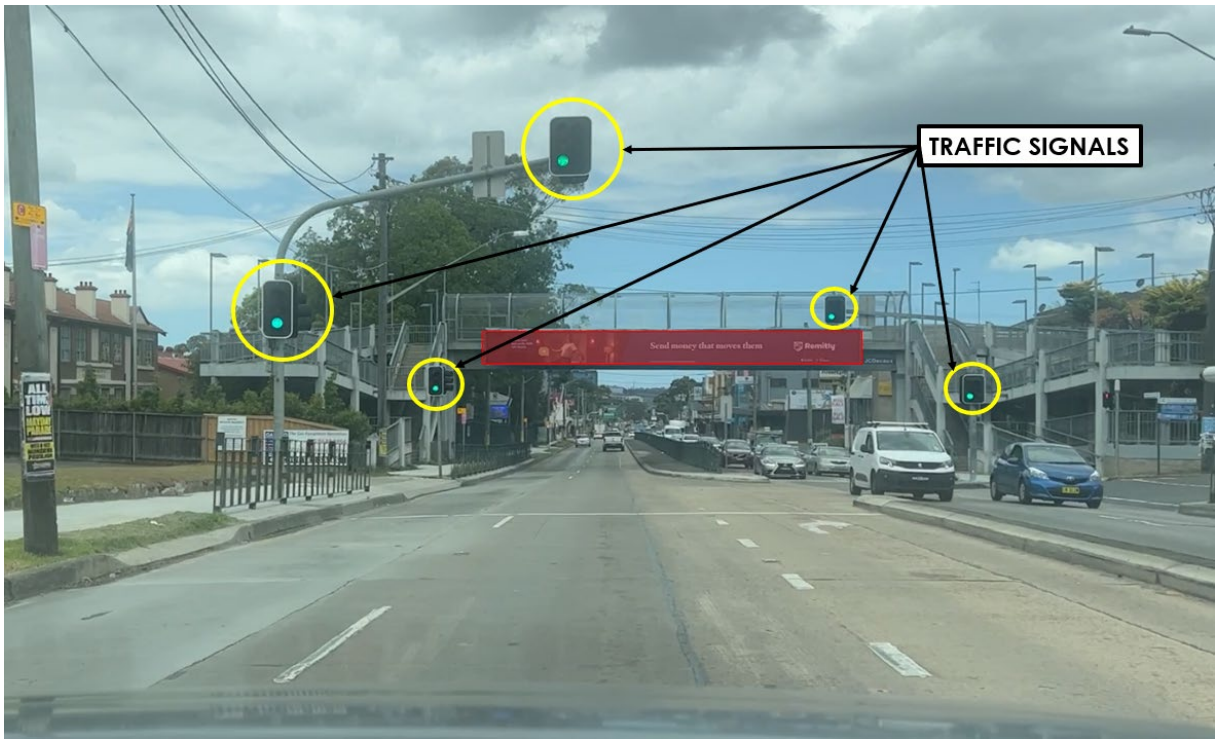
3.3.2 Sign Design and Operation Criteria

3.3.2.1 Advertising Signage and Traffic Control Devices

(a) The advertisement must not distract a driver from, obstruct or reduce the visibility and effectiveness of directional signs, traffic signals, prescribed traffic control devices, regulatory signs or advisory signs or obscure information about the road alignment.

Traffic signals are present on approach to the eastbound facing sign, as shown in Figure 3.15. All five signals are placed around the sign, as there is no backdrop issue for any of the signals on approach to the sign. There is no other signage facing eastbound motorists within the reading distance of the sign.

Figure 3.15: Traffic Signals on Eastbound Approach



Source: Photographs taken by TTPP dated 2 November 2023

Traffic signals and prescribed traffic control devices (no right turn signs) are present on approach to the westbound facing sign, as shown in Figure 3.16. Four signals are visible below the sign, which is located completely within the structural boundaries of the pedestrian bridge. Therefore, the sign would not obstruct or reduce the visibility of the traffic signals or prescribed traffic control devices.

Figure 3.16: Traffic Signals and Traffic Control Devices on Westbound Approach

Source: Photographs taken by TTPP dated 2 November 2023

(b) The advertisement must not interfere with stopping sight distance for the road's design speed or the effectiveness of a traffic control device. For example:

- ***i. Could the advertisement be construed as giving instructions to traffic such as 'Stop', 'Halt' or 'Give Way'?***
- ***ii. Does the advertisement imitate a prescribed traffic control device?***
- ***iii. If the sign is in the vicinity of traffic lights, does the advertisement use red, amber or green circles, octagons, crosses or triangles or shapes or patterns that may result in the advertisement being mistaken for a traffic signal?***

Details of the advertisement/s would remain consistent with the existing advertising. It is noted that the signage would not display colours and shapes which could be mistaken for traffic signals.

Notwithstanding this, it is recommended that the content of the signage be reviewed against Table 5 of the Guidelines to avoid any content that may be construed as imitating a traffic control device.

3.3.2.2 Dwell Time and Transition Time

(a) Each advertisement must be displayed in a completely static manner, without any motion, for the approved dwell time as per criterion (b) below

(b) Dwell times for the image display must not be less than:

- ***i. 10 seconds for areas where the speed limit is below 80km/hr.***
- ***ii. 25 seconds for areas where the speed limit is 80km/h and over.***

(c) Any digital sign that is within 250 metres of a classified road and is visible from a school zone must be switched to a fixed display during school zone hours.
(d) Digital signs must not contain animated or video/movie style advertising or messages of image failure, the default image must be a black screen.
(e) The transition time between messages must be no longer than 0.1 seconds, as in the event of image failure, the default image must be a black screen.

Although the sign is visible from a school zone, the existing signage is not a digital sign and will remain as static signage in the future and therefore these requirements are not applicable.

3.3.2.3 Illumination and Reflectance

(a) Luminance levels comply with the requirements in Table 6 in Transport Corridor Outdoor Advertising and Signage Guidelines
(b) The image displayed on the sign must not otherwise unreasonably dazzle or distract drivers without limitation to their colouring or contain flickering or flashing content.

Section 3.3.3 of the Guidelines details assessment criteria to ensure that illumination and reflectance qualities of the signage do not cause a road safety hazard. It is understood that these criteria would be addressed in a separate specialist report prepared by a qualified consultant.

3.3.2.4 Interaction and Sequencing

(a) The advertisement must not incorporate technology which interacts with in-vehicle electronic devices or mobile devices. This includes interactive technology or technology that enables opt-in direction communication with road users.
(b) Message sequencing designed to make a driver anticipated the next message is prohibited across images presented on a single sign and across a series of signs.

The signage are static signs and would not contain interactive technology or technology that enables opt-in direction communication with motorists.

4 Conclusion

JCDecaux is seeking to renew the permit of existing static advertising signs on both sides of a pedestrian bridge above Parramatta Road, Auburn.

The proposal has been assessed against the statutory requirements for static advertising signage outlined in the following:

- Section 3, Advertisements and Road Safety of the NSW Guidelines
- State Environmental Planning Policy (Industry and Employment) 2021.

The following findings and conclusions are made from the signage safety assessment:

- Since the implementation of the signs, the overall number of crashes on Parramatta Road on approach to the signs in the eastbound and westbound direction have not increased following the installation of each sign.
- The signs do not obstruct and/or reduce visibility of any traffic control devices, signage, pedestrians or cyclists.
- The road environment has changed since the approval and installation of the signs, most notably the upgrade of the Macquarie Street and Parramatta Road intersection to signals.
- The signs do not give incorrect information on the alignment of the road.
- The westbound sign is located within the safe stopping sight distance of traffic signals (which were upgraded after the installation of the signage). However, this is not uncommon as there are multiple digital and static signs located within the safe stopping distance of traffic signals as described in Section 3.3.1.2.
- The signs are located within the driver's peripheral vision and does not require motorists to turn their head away from the roadway ahead.
- The signs do not compromise safety for road users in the vicinity.

Having consideration for the signage safety assessment and discussions presented within this report, the analysis shows that the existing signage on both sides of the pedestrian bridge above Parramatta Road is acceptable from a road safety perspective.

Appendix A

Concept Design Plans

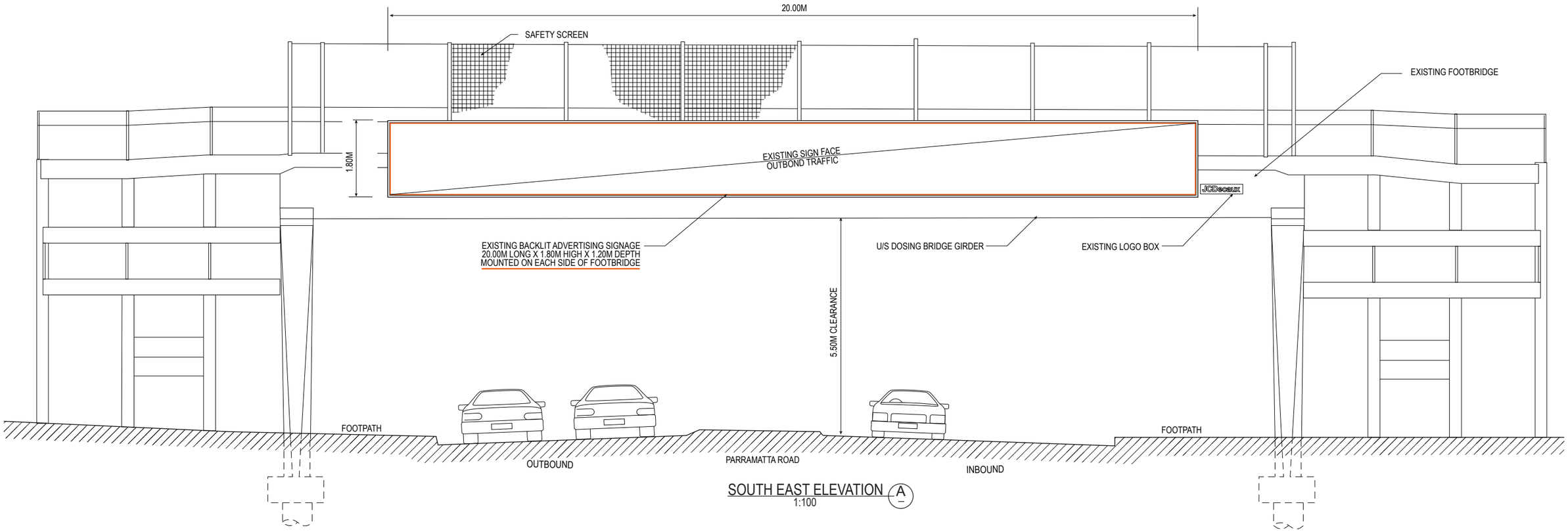
SITE PLAN
1:500

NOTE: NOT FOR CONSTRUCTION
SIGN SIZE AND STRUCTURE AS SHOWN IS INDICATIVE AND SUBJECT TO FINAL DETAIL SITE SURVEY.

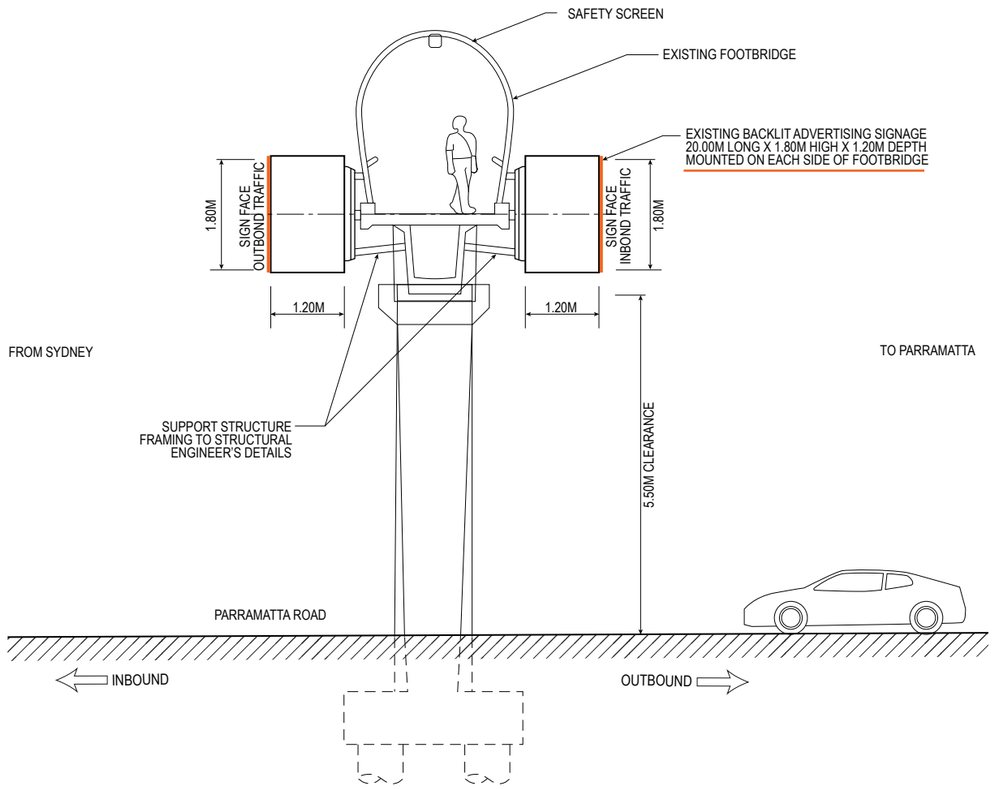
JCDecaux

EXISTING DOUBLE SIDED SIGNAGE DISPLAY STRUCTURE
SIZE 20.00M X 1.80M MOUNTED ON PARRAMATTA RD OVERPASS, AUBURN NSW 2144
-33.842194, 151.037647
SITE PLAN

Date	November, 2023	PLAN & ELEVATION	
Draw by	LF	Drawing No. Date	Rev Rev
Scale	1:500 (Print as A3)	081123-1/3 08/11/23	
Drawing No.	081123-1/3	Drawn: LF	
Job No.	AUB-OVE-1123		



SOUTH EAST ELEVATION (A)
1:100



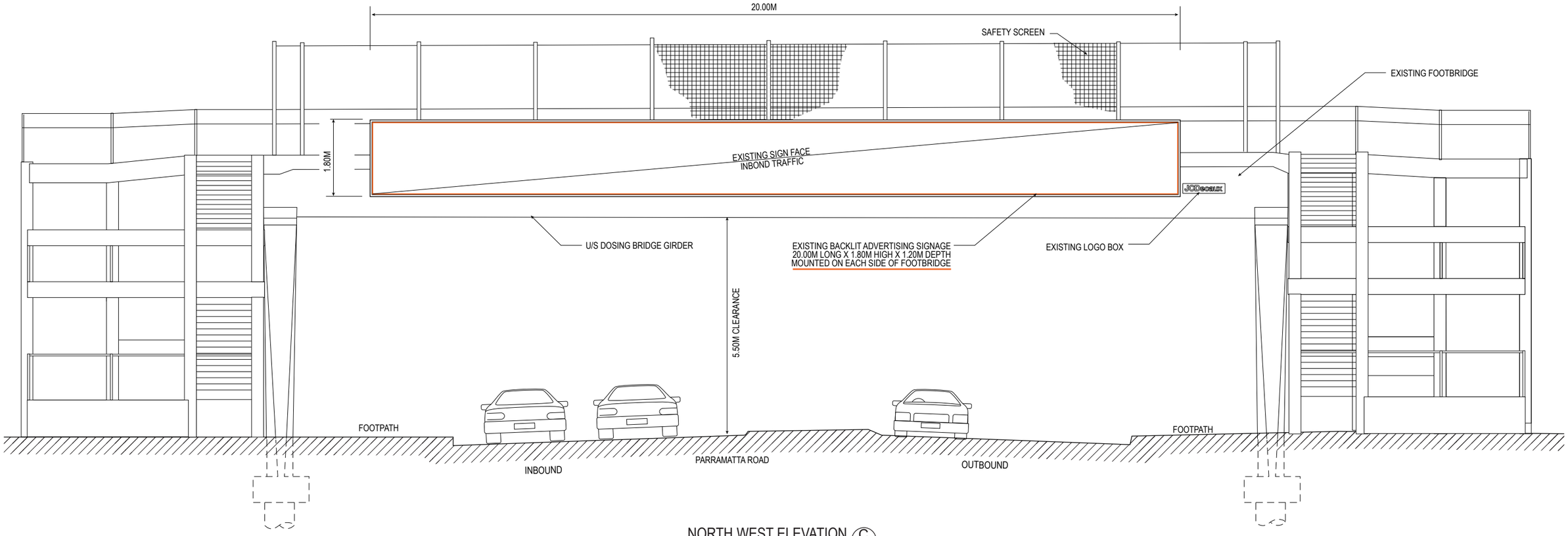
NORTH EAST ELEVATION TYPICAL SECTION (B)
1:100

NOTE: NOT FOR CONSTRUCTION
SIGN SIZE AND STRUCTURE AS SHOWN IS INDICATIVE AND SUBJECT TO FINAL DETAIL SITE SURVEY.

JCDecaux

EXISTING DOUBLE SIDED SIGNAGE DISPLAY STRUCTURE
SIZE 20.00M X 1.80M MOUNTED ON PARRAMATTA RD OVERPASS, AUBURN NSW 2144
-33.842194, 151.037647
ELEVATIONS

Date	November, 2023	PLAN & ELEVATION	
Draw by	LF	Drawing No. Date	Rev Rev
Scale	1:100 (Print as A3)	081123-2/3 08/11/23	
Drawing No.	081123-2/3	Drawn: LF	
Job No.	AUB-OVE-1123		



NORTH WEST ELEVATION (C)
1:100

NOTE: NOT FOR CONSTRUCTION
SIGN SIZE AND STRUCTURE AS SHOWN IS INDICATIVE AND SUBJECT TO FINAL DETAIL SITE SURVEY.

JCDecaux

EXISTING DOUBLE SIDED SIGNAGE DISPLAY STRUCTURE
SIZE 20.00M X 1.80M MOUNTED ON PARRAMATTA RD OVERPASS, AUBURN NSW 2144
-33.842194, 151.037647
ELEVATIONS

Date	November, 2023	PLAN & ELEVATION	
Draw by	LF	Drawing No. Date	Rev Rev
Scale	1:100 (Print as A3)	081123-3/3 08/11/23	
Drawing No.	081123-3/3	Drawn: LF	
Job No.	AUB-OVE-1123		

Appendix B

State Environmental Planning Policy (Industry and Employment) – Schedule 5

State Environmental Planning Policy (Industry and Employment) 2021

Current version for 16 December 2022 to date (accessed 4 July 2023 at 10:29)

Schedule 5

Schedule 5 Assessment criteria

sections 3.6, 3.11 and 3.15

1 Character of the area

- Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?
- Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?

2 Special areas

- Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?

3 Views and vistas

- Does the proposal obscure or compromise important views?
- Does the proposal dominate the skyline and reduce the quality of vistas?
- Does the proposal respect the viewing rights of other advertisers?

4 Streetscape, setting or landscape

- Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?
- Does the proposal contribute to the visual interest of the streetscape, setting or landscape?
- Does the proposal reduce clutter by rationalising and simplifying existing advertising?
- Does the proposal screen unsightliness?
- Does the proposal protrude above buildings, structures or tree canopies in the area or locality?
- Does the proposal require ongoing vegetation management?

5 Site and building

- Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?
- Does the proposal respect important features of the site or building, or both?

- Does the proposal show innovation and imagination in its relationship to the site or building, or both?

6 Associated devices and logos with advertisements and advertising structures

- Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?

7 Illumination

- Would illumination result in unacceptable glare?
- Would illumination affect safety for pedestrians, vehicles or aircraft?
- Would illumination detract from the amenity of any residence or other form of accommodation?
- Can the intensity of the illumination be adjusted, if necessary?
- Is the illumination subject to a curfew?

8 Safety

- Would the proposal reduce the safety for any public road?
- Would the proposal reduce the safety for pedestrians or bicyclists?
- Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?

Appendix C

Assessment Against Current Structural Codes

Dennis Bunt
Consulting Engineers Pty Ltd

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Frenchs Forest NSW 2086

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PH: (02) 9451 3455
FX: (02) 9451 3466
Email:info@dbce.com.au

Ref: 22233

22nd May 2024

Jocelyn Moorfoot
JCDecaux Australia & New Zealand
83 Main St, Kangaroo Point QLD 4169

RE: Existing Supersite Signage Parramatta Rd Overpass, Auburn NSW 2144
Comparison Of Design Codes With Current Codes.

1.0 Introduction

This assessment has been conducted by Dennis Bunt Consulting Engineers Pty Ltd (DBCE) at the request of JCDecaux. .

The purpose of this assessment was to review the design codes for the supersite signage at Parramatta Rd Overpass, Auburn, NSW which was designed in 2008, with today's current codes.

The two structural codes used for the design of the signage structure were the Steel Structures code AS4100:1998 and Structural Design Actions Part 2: Wind Actions AS1170.2 2002. The current codes are Steel Structures code AS4100 2020 and Structural Design Actions Part 2: Wind Actions AS1170.2 2021.

Reference is also made to the following documents:

- Industry Insights Steel Australia Spring 2000 pgs 16 and 17
- Wind Loading – History of Changes Aspec Engineering Pty Ltd, Brisbane, Australia
- Key-Changes-to-AS-NZS-1170.2-2021 by Chris Hackney. (Chris is a committee member of AS1170.2)

2.0 Discussion

AS4100 Steel structures code.

Referring to the document "Industry Insights Steel Australia Spring 2020 pg 16 and 17"

1. The primary reason for revising AS 4100:1998 was to reference AS/NZS 5131 Structural steelwork – Fabrication and erection.
2. There were changes to the definition and description of Definition and description of 'architecturally exposed structural steel' (AESS)
3. The new code addressed the likelihood of lamellar tearing in particular welded connections.

Item 1 refers to the recent development of a fabrication and erection code (AS5131) for structural steel. It brings Australia into line with other developed countries. It does not affect the structural design and hence the member, plate, and bolts sizes but the quality control of the fabrication process.
Item 2 refers to architectural items ie not structural.
Item 3 refers to lamellar tearing. This is applicable to welding relatively thick plates together and is not relevant to the signage structure which consists of SHS members and SHS members welded to plates.

Structural Design Actions Part 2: Wind Actions AS1170.2

Referring to the document Wind Loading – History of Changes Aspec Engineering Pty Ltd, Brisbane, Australia

> The table near the base of the document shows that the calculation for the wind load on a structure for the 2002 code was the same as for the 2011 code. It was done for a particular region and design factors but as a comparison tool it shows both codes producing the same wind load.

Referring to the additional document "Key-Changes-to-AS-NZS-1170.2-2021"

> The document compares the 2021 wind code to the previous 2011 code and illustrates no changes relevant to the signage structure.

I have reviewed the relevant sections of the 2002 code and the 2021 code :

> Section 2: Calculation Of Wind Actions
> Section 3: Regional Wind speeds
> Section 4: Site Exposure Multipliers
> Appendix D: Free Standing Walls, Hoardings and canopies

for calculating wind on the signage structure and the equations and factors are the same.

3.0 Summary/Conclusion

For the supersite signage at Parramatta Rd Overpass, Auburn, NSW which was designed in 2008 :

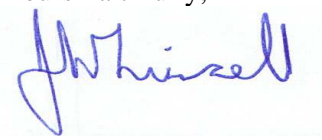
1. The changes to AS1170.2 between 2002 and 2021 do not affect the determination of the wind load calculation on the signage structure.

2. The changes to AS4100 between 1998 and 2020 do not affect the structural sizing of the members or the connections design.

3. Structurally the signage structure is in accordance with current codes and the structural sections of the NCC.

If you have any questions, please do not hesitate to ring the undersigned on 0400 023 714.

Yours Faithfully,



John Linsell BE(Hons), MIEAust, CPEng, NER(Struct)
for Dennis Bunt Consulting Engineers Pty Ltd

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