Hume Highway, Strathfield
Signage Safety Assessment

Prepared for:

TfNSW

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The Transport Planning Partnership

Hume Highway, Strathfield
Signage Safety Assessment

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1 Introduction

1.1 Overview

TfNSW is seeking to renew the permit for an existing double-sided static advertising sign located on the footbridge above Hume Highway, Strathfield. The static signs face eastbound and westbound traffic on Hume Highway.

The sign was approved on 29 October 2009 by the Department of Planning (DA-081-07-2009).

The Transport Planning Partnership (TTPP) has been commissioned by TfNSW to undertake a static 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 the proposed static signage and provide recommendations on mitigation measures to alleviate impacts on the surrounding road network, if required. This report sets out the findings of TTPP's safety assessment for the proposed static signage.

The following items have been considered in this report:

- Potential for the signage to obstruct or distract a driver's view of the road, traffic control devices and signalised pedestrian crossings.
- Distance from upstream or downstream intersections or other decision points, such as pedestrian crossings and traffic signals.
- Potential for the signage to distract at a critical time 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 signage location from a driving viewpoint along Hume Highway in both directions and on all approaches to the sign was undertaken on Monday 12 August 2024.
- 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 Environmental Planning Policy (Industry and Employment) 2021.
- Plans for the proposed static advertising signs dated 23 October 2024.

2 Proposal Description

2.1 Location Details

The permits for the existing static advertising signs mounted on both sides of the pedestrian bridge above Hume Highway near Hedges Avenue, Strathfield are proposed to be renewed. The signage faces eastbound and westbound traffic travelling on Hume Highway.

The signs are located approximately 200m east of the signalised intersection of Hume Highway and Centenary Drive and 210m west of the signalised intersection of Hume Highway and Cosgrove Road. Between Braidwood Street and Gould Street, Hume Highway 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 the surrounding area is shown in Figure 2.1.

Figure 2.1: Signage Location

Basemap Source: Nearmap aerial imagery dated 22 July 2024.

2.2 Description of the Proposed 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 41.8m^2 (12.66m width by 3.3m height) for each sign.

The signage will be used by the operator to continue promoting its sponsors and third-party advertising. The static signage will contain text and images. The general layout of the proposed static advertising signage is shown by the elevation plans in Figure 2.2 to Figure 2.4. Full scale concept design plans are provided in Appendix A.

Figure 2.2: Elevation Plan A - Facing Westbound Traffic

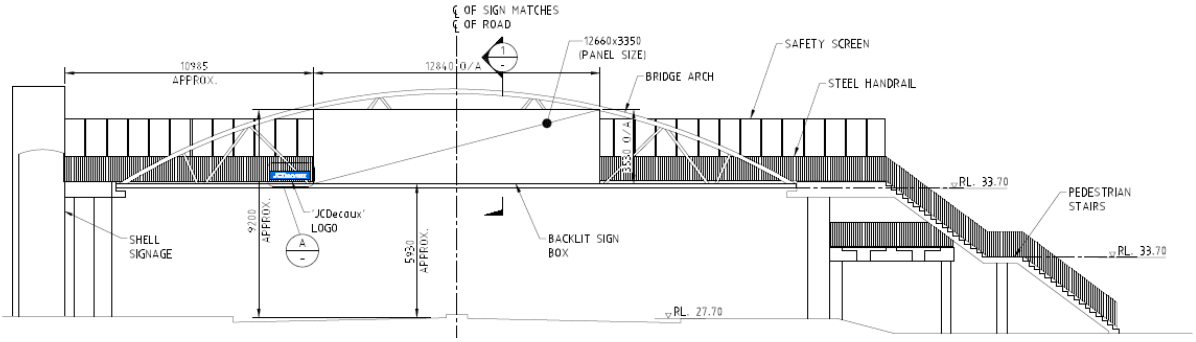


Figure 2.3: Elevation Plan B - Facing Eastbound Traffic

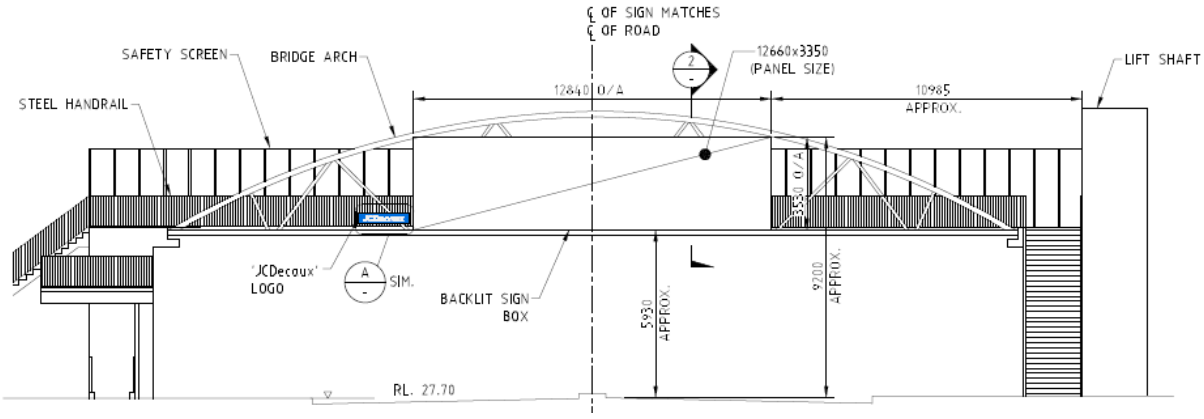
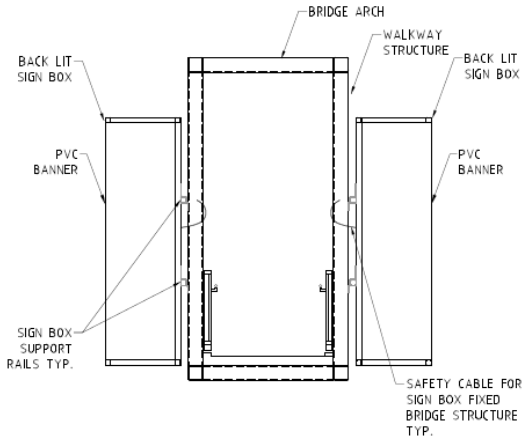


Figure 2.4:Elevation Plan C - Side View



2.3 Signage Exposure

The existing static advertising signage is visible to motorists travelling eastbound and westbound on Hume Highway, as shown in Figure 2.2.

Figure 2.5: Hume Highway Approaches to Signage

Basemap source: Nearmap aerial imagery dated 22 July 2024.

A site visit was undertaken on Monday 12 August 2024 to inspect driver sight distances to the existing static advertising signage and observe any potential crash hazards that could be caused by the sign. The School Zone was active during the site inspection. A description of the site investigation findings is provided herein.

2.3.1 Hume Highway Eastbound Approach

The lane configuration on the Hume Highway eastbound carriageway in the vicinity of the existing static advertising sign is shown in Figure 2.3. Travel lanes are numbered 1 to 4 from left to right, with Lane 4 being a right turn lane onto Braidwood Street.

Figure 2.6: Hume Highway Eastbound Approach Lane Configuration

Source: Photograph taken by TTPP dated 12 August 2024.

The key findings are summarised below:

- The static sign would be visible to motorists on Hume Highway travelling eastbound.
- There is no other large format static or digital advertising signage within 150m of the existing sign location.
- Lane 4 (right turn lane) is approximately 90m long and commences 160m from the sign.
- Treating the observed conditions during the site inspection as the typical conditions in the area, visible and legible distances are summarised in Table 2.1.
- There is an indented bus bay located 40m upstream of the static sign.
- No significant road safety issues associated with the existing static sign were observed.
- Within 125m on approach to the sign, Hume Highway is subject to a 40km/h School Zone restriction, while the posted speed limit of 60km/h applies at all other times.
- Pedestrian volumes at the time of the site inspection in the vicinity of the sign were low.

Table 2.1: Eastbound Sight Distances

Lane	Visible Distance	Legible Distance
Lane 1	260m	110m
Lane 2	250m	110m
Lane 3	240m	110m
Lane 4	160m	110m

The likely visible distance and legible distance in each lane on approach to the sign is shown in Figure 2.4 to Figure 2.7.

Figure 2.7: Eastbound Approach Sign Exposure - Lane 1

Source: Photograph taken by TTPP dated 12 August 2024.

Figure 2.8: Eastbound Approach Sign Exposure - Lane 2

Source: Photograph taken by TTPP dated 12 August 2024.

Figure 2.9: Eastbound Approach Sign Exposure - Lane 3

Source: Photograph taken by TTPP dated 12 August 2024.

Figure 2.10: Eastbound Approach Sign Exposure - Lane 4

Source: Photograph taken by TTPP dated 12 August 2024.

2.3.2 Hume Highway Westbound Approach

The lane configuration on the Hume Highway westbound carriageway in the vicinity of the existing sign is shown in Figure 2.8. Travel lanes are numbered 1 to 4 from left to right, with Lane 4 being a right turn lane onto Fitzgerald Crescent.

Figure 2.11: Hume Highway Westbound Approach Lane Configuration – Aerial View

Basemap source: NearMap aerial imagery dated 22 July 2024.

Figure 2.12: Hume Highway Westbound Approach Lane Configuration – Motorists' View

Source: Photographs taken by TTPP dated 12 August 2024.

The key findings are summarised below:

- The static sign would be visible to motorists on Hume Highway travelling westbound.
- There is no other large format static or digital advertising signage within 150m of the existing sign location.
- Lane 4 (right turn lane) is approximately 45m long and commences 380m from the sign.
- Treating the observed conditions during the site inspection as the typical conditions in the area, visible and legible distances are summarised in Table 2.2.
- The sign is obscured from the lane 4 approach.
- There is an indented bus bay located below the footbridge.
- No significant road safety issues associated with the existing static sign were observed.
- The sign is obscured by directional signage beyond 260-280m depending on the lane of approach.
- Within 110m on approach to the sign, Hume Highway is subject to a 40km/h School Zone restriction, while the posted speed limit of 60km/h applies at all other times.
- Pedestrian volumes at the time of the site inspection in vicinity of the sign were low.

Table 2.2: Westbound Sight Distances

Lane	Visible Distance	Legible Distance
Lane 1	260m	110m
Lane 2	270m	110m
Lane 3	280m	110m
Lane 4	-	-

The likely visible distance and legible distance in each lane on approach to the sign is shown in Figure 2.10 to Figure 2.13.

Figure 2.13: Westbound Approach Sign Exposure - Lane 1

Source: Photographs taken by TTPP dated 12 August 2024.

Figure 2.14: Westbound Approach Sign Exposure - Lane 2

Source: Photographs taken by TTPP dated 12 August 2024.

Figure 2.15: Westbound Approach Sign Exposure - Lane 3

Source: Photographs taken by TTPP dated 12 August 2024.

Figure 2.16: Westbound Approach Sign Exposure - Lane 4

Source: Photographs taken by TTPP dated 12 August 2024.

2.4 Crash History

Historic crash data has been obtained from Transport for NSW (TfNSW) and assessed for incidents on Hume Highway within the visible distance of the existing static advertising signs. Crash history data has been assessed on both approaches to each sign for the most recent five-year period for data collated and published by TfNSW. The period is between 1 January 2019 to 31 December 2023.

2.4.1 Eastbound Approach

Crash data has been reviewed within the legible and visible distance of the static sign location, which is up to 260m from the sign. Six casualty crashes were reported within the visible distance of the sign, with two of these crashes being within the legible distance. It is noted that beyond the legible distance, the sign is highly unlikely to draw the attention of motorists. Of the incidents within the visible distance, there were no serious injuries or worse.

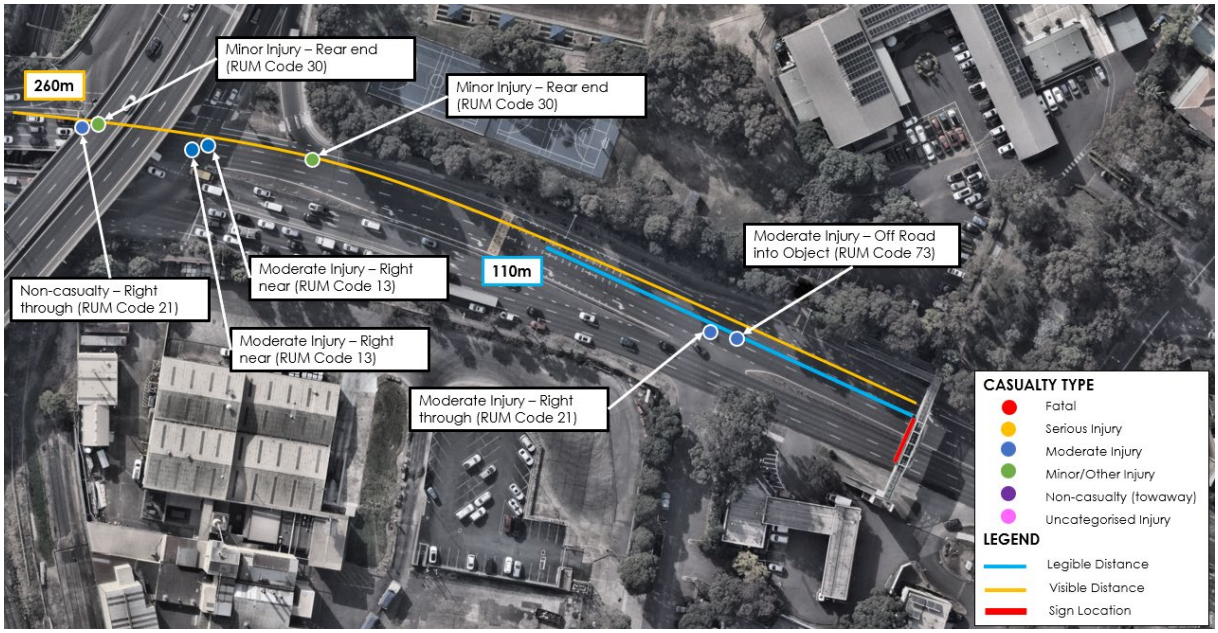
During 2023 (most recent available data), Hume Highway had an AADT volume of more than 25,000 vehicles in the eastbound direction according to TfNSW's Traffic Volume Viewer. Six casualty incidents over a 260m distance and a 5-year period is not considered unusual for an arterial road in this setting given the high volume of traffic and highly urbanised road environment.

A summary of the crashes within the visible and legible distance of the sign is presented in Table 2.3. The crash locations and associated incident descriptions are also shown in Figure 2.14.

Table 2.3: Crash Type and Severity – Eastbound Sign

Crash Type (RUM code)	No. of Crashes	Crash Severity (No. of Crashes)					
		Fatality	Serious Injury	Moderate Injury	Minor Injury	Uncategorised Injury	Non-casualty (tow-away)
Within Legible Distance = 110m							
Right through (RUM Code 21)	**1**	0	0	1	0	0	0
Off Road into Object (RUM Code 73)	**1**	0	0	1	0	0	0
Total	**2**	**0**	**0**	**2**	**0**	**0**	**0**
Within Visible Distance = 260m							
Right near (RUM Code 13)	**2**	0	0	2	0	0	0
Right through (RUM Code 21)	**2**	0	0	1	0	0	1
Rear end (RUM Code 30)	**2**	0	0	0	2	0	0
Off Road into Object (RUM Code 73)	**1**	0	0	1	0	0	0
Total	**7**	**0**	**0**	**4**	**2**	**0**	**1**

Figure 2.17: Eastbound Sign Crash Map



Basemap source: NearMap aerial imagery dated 22 July 2024.

2.4.2 Westbound Approach

Crash data has been reviewed within the legible and visible distance of the static sign location, which is up to 280m from the sign. Five casualty crashes were reported within the visible distance of the sign, with one casualty crash being within the legible distance. It is noted that beyond the legible distance, the sign is highly unlikely to draw the attention of motorists.

During 2023 (most recent available data), Hume Highway had an AADT volume of more than 26,000 vehicles in the westbound direction according to TfNSW's Traffic Volume Viewer. Five casualty incidents over a 280m distance and a 5-year period is not considered unusual for an arterial road in this setting given the high volume of traffic and highly urbanised road environment.

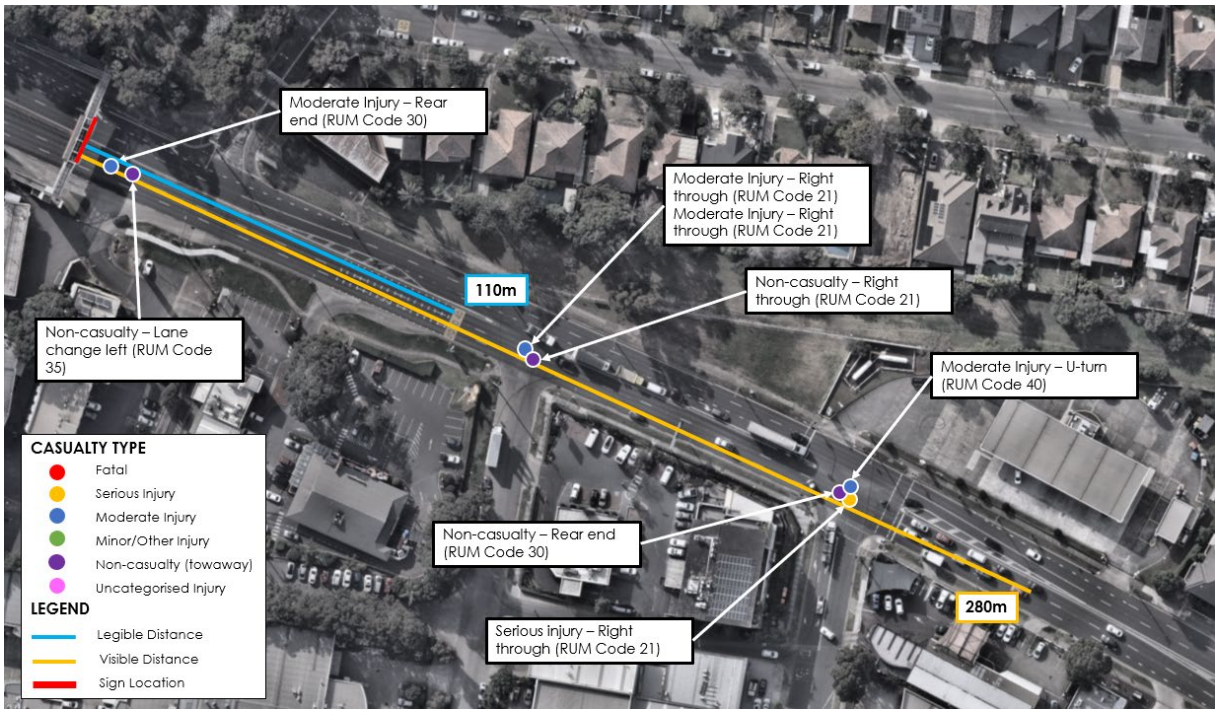
A summary of the crashes within the visible and legible distance of the sign is presented in Table 2.3. The crash locations and associated incident descriptions are also shown in Figure 2.15.

Table 2.4: Crash Type and Severity – Westbound Sign

Crash Type (RUM code)	No. of Crashes	Crash Severity (No. of Crashes)					
		Fatality	Serious Injury	Moderate Injury	Minor Injury	Uncategorised Injury	Non-casualty (tow-away)
Within Legible Distance = 110m							

Rear end (RUM Code 30)	**1**	0	0	1	0	0	0
Lane change left (RUM Code 35)	**1**	0	0	0	0	0	1
Total	**2**	**0**	**0**	**1**	**0**	**0**	**1**
Within Visible Distance = 280m							
Right through (RUM Code 21)	**4**	0	1	2	0	0	1
Rear end (RUM Code 30)	**2**	0	0	1	0	0	1
Lane change left (RUM Code 35)	**1**	0	0	0	0	0	1
U-turn (RUM Code 40)	**1**	0	0	1	0	0	0
Total	**8**	**0**	**1**	**4**	**0**	**0**	**3**

Figure 2.18: Westbound Sign Crash Map



Basemap source: NearMap aerial imagery dated 22 July 2024.

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 proposed design has been assessed against the relevant statutory requirements and guidelines. In order to assess any new installation against the key safety assessment criteria, a series of detailed criteria are set out in Section 3, 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 a static sign on the pedestrian bridge above Hume Highway near Hedges Avenue is unlikely to reduce safety for motorists, pedestrians and 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 sections below.

3.2 Transport Corridor Outdoor Advertising and Signage Guidelines – Digital Signs Criteria (Section 2 of the 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 Hume Highway pedestrian 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 Hume Highway 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. • 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 bridge engineers prior to construction to ensure all road safety requirements are met.	Construction drawings were prepared and submitted as part of the original application.
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 the Guidelines)

3.3.1 Sign 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 Hume Highway. 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.

The development application plans for the static advertising signage are contained in Appendix A.

(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 AS 1170.2. 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 (AS1170.1:2002 and AS1170.2:2021).

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 Hume Highway 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 of 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 above the road and well within a driver's peripheral vision whilst travelling eastbound and westbound on Hume Highway. 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.

(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.

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, there is a posted speed limit of 60km/hr.

For the purpose of this assessment, an operating speed of 60km/hr has been used to calculate the safe stopping sight distance. 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 64m.

Table 5.2 of the Austroads Guide to Road Design Part 3 provides the typical road conditions and driver reaction times. A reaction time of 2.0 seconds is used for road conditions in "higher speed urban areas" and with "few intersections". A 1.5 second reaction time is used in alert driving conditions where there is a "High expectancy of stopping due to traffic signals" and "built up areas – high traffic volumes".

TTPP notes that Hume Highway, Strathfield comprises the following road and geometric elements that pertain to alert driving conditions:

- High expectancy of stopping due to traffic signals
- Built-up area – high traffic volumes
- Built-up area with direct accesses and intersections.

Moreover, Hume Highway features frequent signalised intersections, which would contribute to drivers having an elevated expectancy of stopping and thereby, a lower reaction time.

Therefore, based on the criteria of Table 5.2 in the Austroads Guide to Road Design Part 3, a reaction time of 1.5 seconds is considered suitable for the safe stopping sight distance assessment.

The slope of the road from east to west is approximately 5%, therefore a grade correction factor is required. On the eastbound and westbound approach, the safe stopping sight distance would be 60m and 68m after applying the grade correction factor respectively.

Westbound Sign

The nearest decision making, or conflict point to the sign is the Hume Highway and Centenary Drive signalised intersection 200m upstream of the sign, which is far beyond the SSD of the westbound approach and therefore is compliant.

Eastbound Sign

There is a merge point located in close proximity to the sign where Lane 1 ends, the start of the merge begins under the sign and the lane ends 80m downstream of the sign. It is noted that there have been no crashes between merging vehicles at this location in the last 5-year period.

There are several examples of static and digital signs located within close proximity of merge points on motorways in Sydney, which are all higher speed environments, so the potential crash severity is significantly worse. These examples are summarised below and include both static and digital signs.

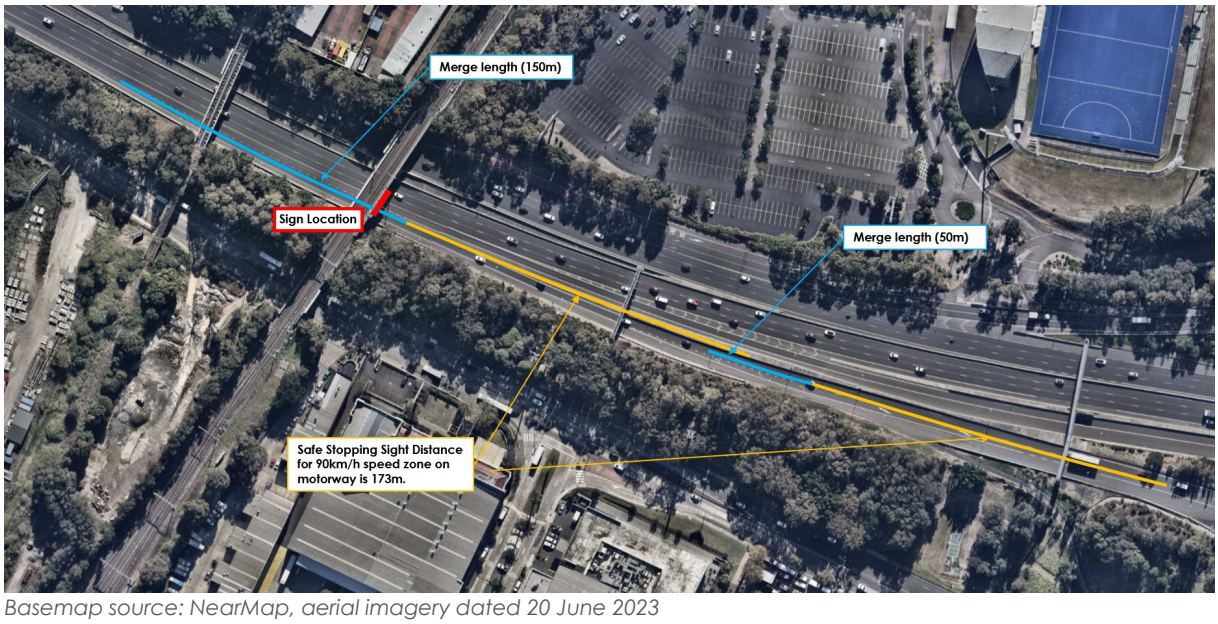
A digital sign is mounted on the rail bridge facing westbound traffic on the M4 Motorway. The sign is located downstream from two merge points of the Homebush Bay Drive and Centenary Drive on ramps with the M4 Motorway. The sign is located approximately 600m west along the M4 from the subject sign. The driving approach to the sign from the on-ramp is shown in Figure 3.1, which shows that the sign is visible on approach to both merge points.

Figure 3.1: Approach to Sign – M4 Westbound Digital Sign on Overhead Bridge

Source: Google Street View dated October 2018

At this location, there is a variable speed limit with the default speed limit set at 90km/h. The operating speed has been assumed to be 90km/h, resulting in a minimum safe stopping sight distance of 173m. The sign is located within the length of the second merge lane as shown in Figure 3.2.

Figure 3.2: Minimum Safe Sight Distance – M4 Westbound Digital Sign on Overhead Bridge



Basemap source: NearMap, aerial imagery dated 20 June 2023

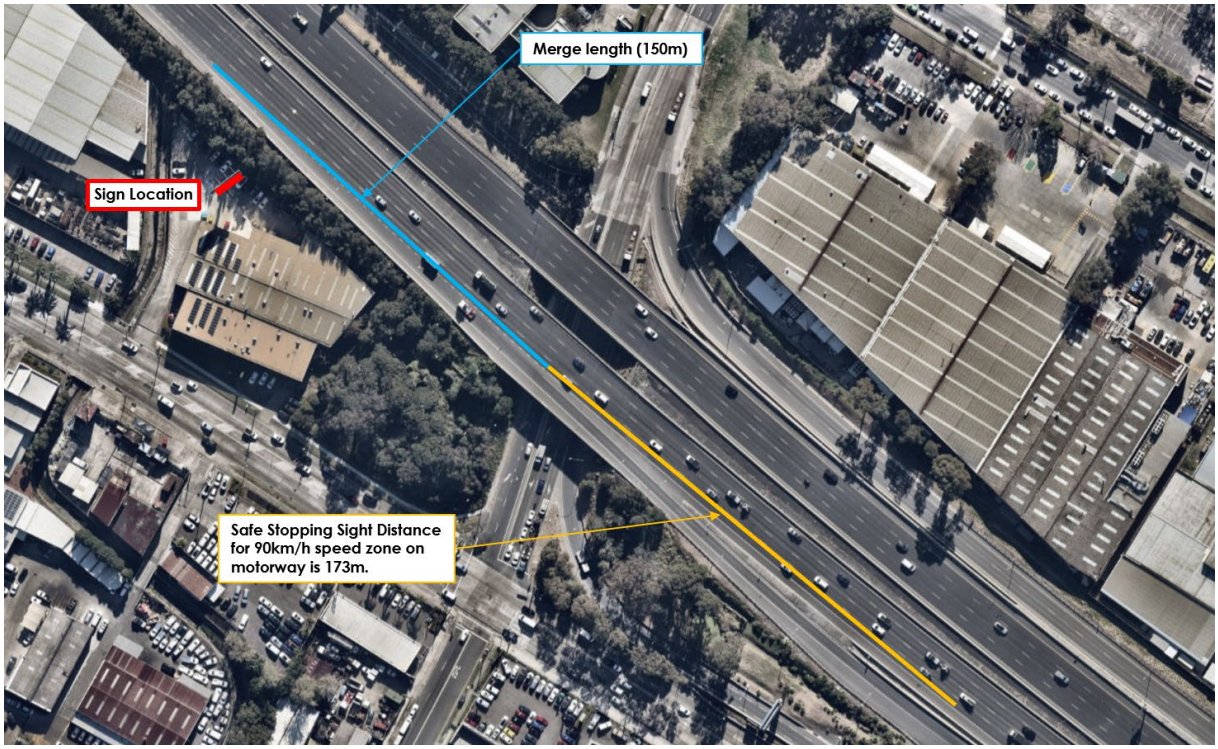
A digital sign is mounted on a monopole on the south-west side of the M4 Motorway facing westbound traffic. The sign is located downstream from the merge point of the Hill Road on-ramp with the M4 Motorway. The driving approach to the sign from the on-ramp is shown in Figure 3.3 below, which shows that the sign is visible on approach to the merge point.

Figure 3.3: Approach to Sign – M4 Westbound Digital Sign on Monopole

Source: Google Street View dated October 2020

At this location, there is a variable speed limit with the default speed limit set at 90km/h. The operating speed has been assumed to be 90km/h, resulting in a minimum safe stopping sight distance of 173m. The sign is located within the length of the merge lane as shown in Figure 3.4.

Figure 3.4: Minimum Safe Sight Distance – M4 Westbound Digital Sign on Monopole



Basemap source: NearMap, aerial imagery dated 20 June 2023

A digital sign is mounted on the rail bridge facing westbound traffic on the Gore Hill Freeway. The sign is located downstream from a merge point with Lane 2 of the Longueville Road/Pacific Highway on-ramp and upstream from the merge point with Lane 1 of the Longueville Road/Pacific Highway on-ramp, which is a 24-hour T2 lane. The driving approach to the sign is shown Figure 3.5, which shows that the sign is visible on approach to the merge point.

Figure 3.5: Approach to Sign – Gore Hill Freeway Digital Sign

Source: Google Street View dated June 2023

At this location, there is a variable speed limit with a default speed limit set of 80km/h. The operating speed has been assumed to be 80km/h, resulting in a minimum safe stopping sight distance of 141m. The sign is located in close proximity of the merge lane, similar to the subject site as shown in Figure 3.6.

Figure 3.6: Minimum Safe Sight Distance – Gore Hill Freeway Digital Sign

Basemap source: NearMap, aerial imagery dated 20 June 2023

A static sign is mounted on the Watkins Road road bridge above the M2 Motorway, facing westbound traffic. The sign is located beyond a merge point with the Windsor Road on-ramp. The driving approach to the sign from the on-ramp is shown in Figure 3.7, which shows that the sign is visible on approach to the merge point.

Figure 3.7: Approach to Sign – M2 Westbound Static Sign

Source: Google Street View dated February 2022

At this location, there is a posted speed limit of 100km/h. The operating speed has been assumed to be 100km/h, resulting in a minimum safe stopping sight distance of 207m. The sign is located within the length of the merge lane as shown in Figure 3.2.

Figure 3.8: Minimum Safe Sight Distance – M2 Westbound Static Sign

Basemap source: NearMap, aerial imagery dated 20 June 2023

Based on the above, there are several instances on Sydney motorways where there are existing digital and static signage located within the length of a merge lane or in close vicinity to a merge point.

In addition, the supplementary crash analysis in Section 2.4 indicates that the distraction potential due to the presence of a static sign is minimal and evidently has not contributed to creating a road environment that is any less safe for road users.

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

Eastbound Sign

For the sign facing eastbound traffic, the sign is visible from the stem of Braidwood Street on approach to Hume Highway. Motorists approaching Hume Highway from Braidwood Street are required to stop which will give sufficient time to observe the static sign, assess oncoming traffic and select a suitable gap in traffic. Furthermore, it is noted that there have been no crashes involving vehicles exiting Braidwood Street in the last 5-year period.

Figure 3.9: View from Braidwood Street

Source: Photograph taken by TTPP dated 12 August 2024.

The eastbound sign is also visible from the left turn lane from Centenary Drive onto Hume Highway as shown in Figure 3.10. However, motorists at this location will have their head turned over their right shoulder to observe oncoming traffic, in the opposite direction to the sign. In addition, the sign would be far beyond the legible distance of the sign and is highly unlikely to be noticeable. The sign is not expected to impact driver behaviour at this intersection.

Figure 3.10: View from Centenary Drive

Source: Photograph taken by TTPP dated 12 August 2024.

Westbound Sign

The static sign is visible from Hedges Avenue as shown in Figure 3.11. Motorists approaching Hume Highway from Hedges Avenue are required to stop which will give sufficient time to observe the static sign, assess oncoming traffic and select a suitable gap in traffic. Furthermore, it is noted that there have been no crashes involving vehicles exiting Hedges Avenue in the last 5-year period.

Figure 3.11: View from Hedges Avenue

Source: Photograph taken by TTPP dated 12 August 2024.

The sign is visible from the Fitzgerald Crescent approaches to Hume Highway and are shown in Figure 3.12 and Figure 3.13. Visibility of the sign from both approaches is limited and at a distance of 370m and 500m from the sign, far beyond the legible distance. Hence, the sign is not expected to impact driver behaviour at either approach.

Figure 3.12: View from Fitzgerald Crescent (West)

Source: Photograph taken by TTPP dated 12 August 2024.

Figure 3.13: View from Fitzgerald Crescent (East)

Source: Photograph taken by TTPP dated 12 August 2024.

The westbound sign is visible from the Gould Street approach to Hume Highway as shown in Figure 3.14. However, motorists turning left from this approach would have their head turned over their right shoulder to observe oncoming traffic, in the opposite direction to the static sign. While motorists turning right would be required to look left, with the static sign in view, right turn movements are prohibited from 6 to 10am and from 3 to 7pm on weekdays. It is

anticipated that right turn movements made during the permitted off-peak times would be subject to lower traffic volumes than at peak times.

Figure 3.14: View from Gould Street

(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 Hume Highway in the westbound or eastbound direction.

3.3.1.4 Sign Spacing

(a) ***Sign spacing should limit drivers 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 150m of the static signage 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.

The existing static signage is located above the carriageway. Hence, it does not distract motorists nor obstruct or reduce the visibility and effectiveness of any directional signs, traffic signals, traffic control devices, regulatory signs or advisory signs.

The signage does not obscure information about the road alignment.

(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?***

The static signage would not display colours and shapes which could be mistaken for a traffic signal. The operator will not post any advertisements that contravene this condition.

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 imitation of a traffic control device, particularly traffic signals. Furthermore, the image must not content text providing driving instructions to drivers.

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 image display must not be less than:
- ***(i) 10 seconds for areas where the speed limit is below 80km/h***
- ***(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.

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 must 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 static signage would not contain interactive technology or technology that enables opt-in direction communication with motorists. The signage would not be designed to make motorists anticipate information.

4 Conclusion

TfNSW is seeking to renew the permit of a large format, double-sided static advertising sign facing eastbound and westbound traffic, located on the footbridge above Hume Highway in Strathfield.

The proposal has been assessed in accordance with the following statutory requirements and guidelines for advertising signs:

- Transport Corridor Outdoor Advertising and Signage Guidelines
- State Environmental Planning Policy (Industry and Employment) 2021.

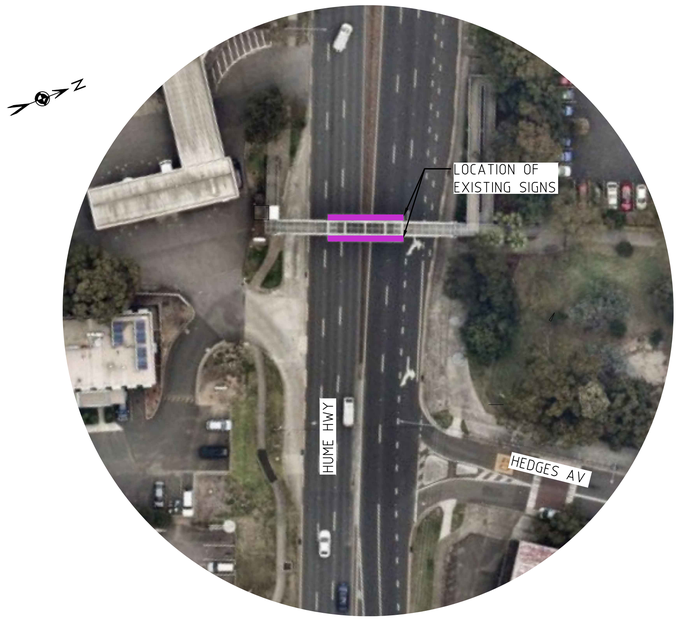
The following findings and conclusions are made from the signage safety assessment:

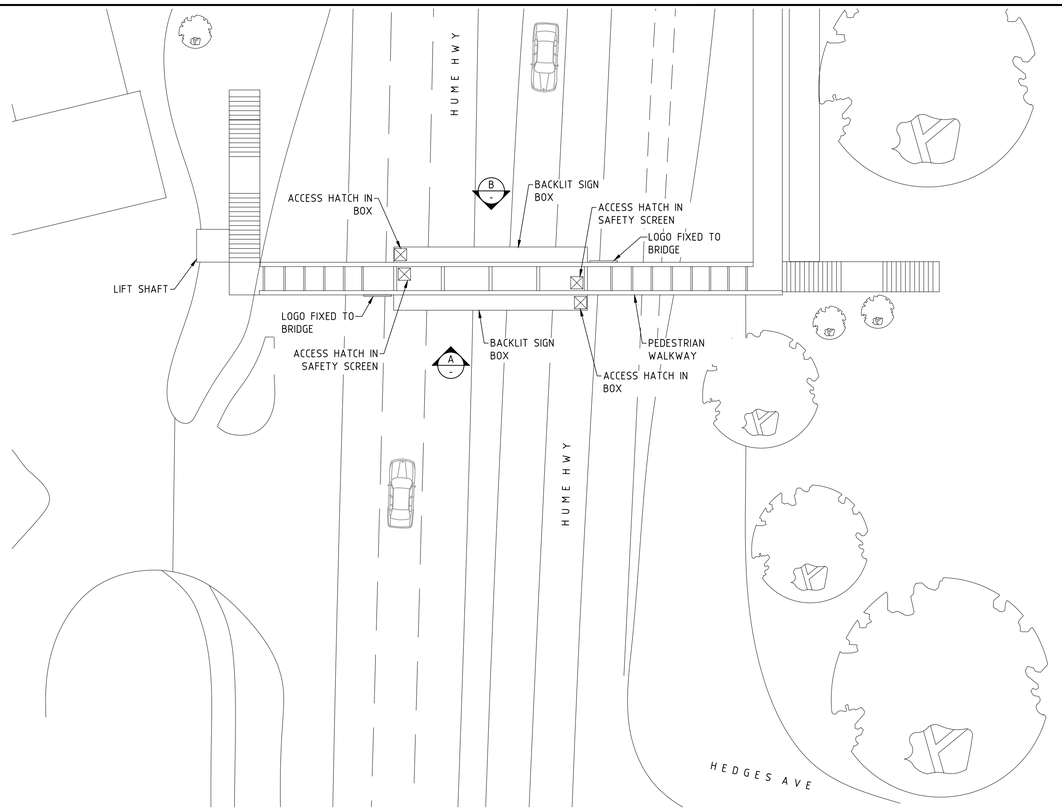
- In the five-year period between January 2019 and December 2023, there were two casualty incidents on the eastbound approach within the legible distance to the existing static signage, and one casualty incident on the westbound approach within the legible distance.
- The signage does not obstruct and/or reduce the visibility of any traffic control devices, signage, pedestrians or cyclists.
- The signage does not give incorrect information on the alignment of the road.
- The signage is located above the carriageway, within the driver's vision on both approaches and does not require motorists to turn their head way from the roadway ahead.
- The existing westbound facing static sign is not located within the safe stopping distance to any key decision points or conflict points.
- The existing eastbound facing static sign is located within the safe stopping distance of a downstream merge point, however the crash history indicates that there are no incidents between merging vehicles at this location. Moreover, there are many examples of digital and static signs located within the safe stopping distance of merge points across Sydney.
- The signage does not compromise road safety for road users in the vicinity.

Having consideration for the static signage safety assessment and discussion presented within this report, the analysis demonstrates that the existing static signage on the Hume Highway facing eastbound and westbound traffic would satisfy the traffic safety criteria, requirements and guidelines in the Industry and Employment SEPP and NSW Guidelines.

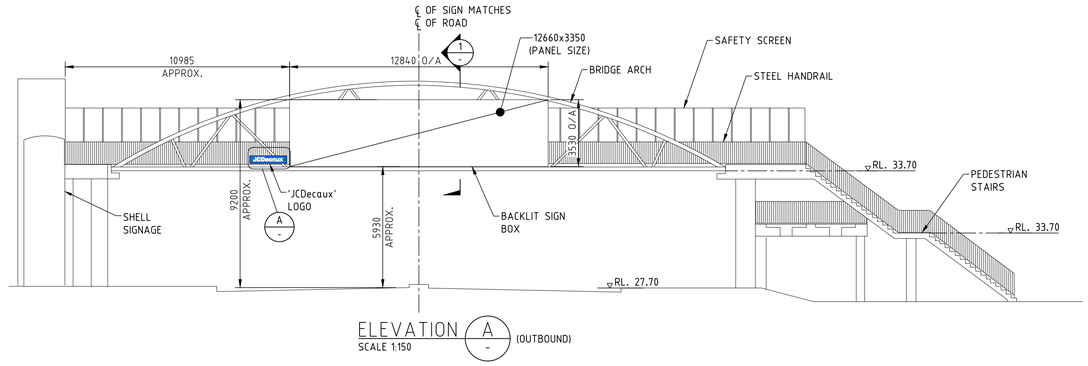
Appendix A

Concept Design Plans

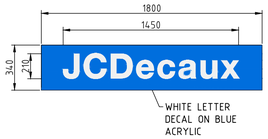




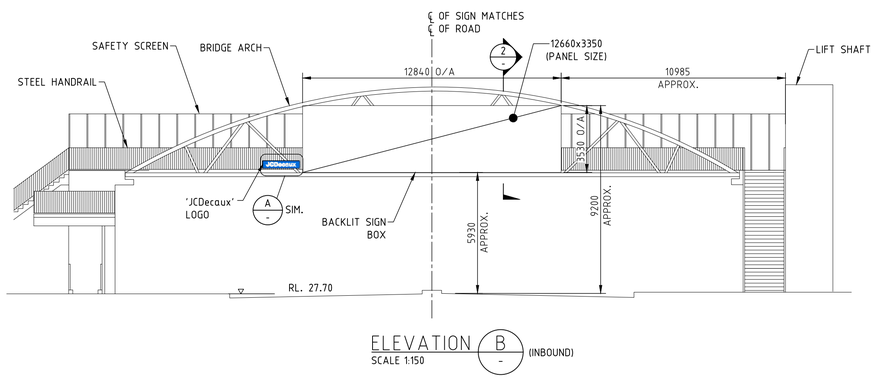
SITE PLAN
SCALE 1:200



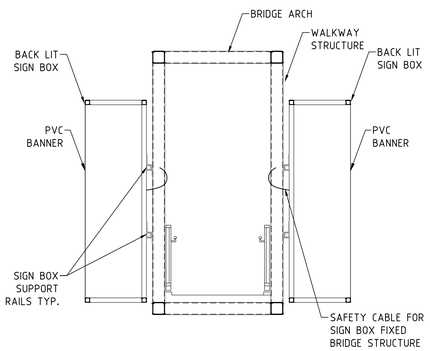
ELEVATION A
SCALE 1:150
(OUTBOUND)



DETAIL 1
SCALE 1:25



ELEVATION B
SCALE 1:150
(INBOUND)



SECTION 1 2
SCALE 1:50
SIM

ISSUE	DATE	REVISION	PREP	CHECK	AUTH
2	23/10/24	ISSUED FOR DA APPROVAL			
1	23/09/24	ISSUED FOR DA APPROVAL			

TRANSPORT FOR NEW SOUTH WALES

HUME HIGHWAY — STRATHFIELD COUNCIL

ADVERTISING SIGNAGE
HUME HIGHWAY OVERPASS
STRATHFIELD

GENERAL ARRANGEMENT - SHEET 1

Dennis Bunt Consulting Engineers Pty Ltd

Transport Roads & Maritime Services
NSW GOVERNMENT
27-31 Argyle Street, Parramatta NSW 2150

PREPARED	CHECKED	REGISTRATION No OF PLANS
DESIGN JL		DS2024/001016
DRAWING MT		RTA BRIDGE NUMBER B8580
APPROVED DESIGN DA RECORDS		ISSUE STATUS DA APPROVAL
DIRECTOR		SHEET No DA01 ISSUE 2

Appendix B

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

NSW legislation

State Environmental Planning Policy (Industry and Employment) 2021

Current version for 4 March 2024 to date (accessed 13 September 2024 at 10:28)

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

ABN 23 039 013 724
Level 2, Building 8
Forest Central Business Park
49 Frenchs Forest Road East
Frenchs Forest NSW 2086

PO Box 652
Forestville, NSW, 2087
PH: (02) 9451 3455
FX: (02) 9451 3466
Email:info@dbce.com.au

Ref: 24137

23rd October 2024

Sammy Hamilton
43A The Corso, Manly
New South Wales 2095

RE: Hume Highway Overpass, Strathfield South, NSW
DA For Continued Signage Use, Structural Feasibility and Safety Report

1.0 Introduction

This assessment has been conducted by Dennis Bunt Consulting Engineers Pty Ltd (DBCE) at the request of Keylan. No responsibility under the law of contract, tort or otherwise for any loss or damage is accepted.

The purpose of this assessment was to perform a structural and safety review of the existing signs at Hume Highway Overpass, Strathfield South, NSW for the DA approval by TfNSW for Continued Signage use.

The existing signage was inspected on the 24th of November 2022 as part of DBCE's ongoing maintenance inspections for JCDecaux.

The existing signage was documented by DBCE on the 23rd Of September 2024 for TfNSW, drawing number DS2024/001016, DA01(1).

The following documents were used in this assessment.

1. Transport Corridor Outdoor Advertising and Signage Guidelines, NSW Government (November 2017)
2. AS1170.0-2002 Structural design actions Part 0: General principles
3. AS1170.1-2002 Structural design actions Part 1: Permanent, imposed and other actions.
4. AS1170.2-2021 Structural design actions Part 2: Wind actions
5. AS4100-2020 Steel structures.

6. AS5100-2017 Bridge design.
7. AS1657-2018 Fixed platforms, walkways, stairways, and ladders - Design, construction and installation

This report was limited to a visual examination only and no calculations were performed.

2.0 Observations/ Discussion

The existing signs are backlit supersite signs. The signs consist of steel boxes fixed to each side of a steel truss footbridge located over the Hume Highway. There are steel rails welded to the sides of the bridge's steel trusses. Z brackets are fixed to the back of each sign box and the brackets fit over the rails connecting the boxes to the rails. Each sign face is 12.66m horizontal x 3.35m vertical. Refer to photo 1, 2 and 4.

The sign boxes are located on the outside of the safety screen. Access to the sign boxes is from hatches in the roof of the safety screen, and a hatch in the top of each box. Refer to photo 1 and 4. There is a hatch in the top of each sign box and a permanent ladder inside each sign box underneath the hatches.

Each sign box consists of a steel structure on all sides of the box except for the front where a PVC banner tensioned with ratchet straps is fixed. There are fluorescent lights fixed to the back of each box to illuminate the advertising sign at night. When the banner is replaced, it is done from a walkway inside the box without having to stop the traffic below the sign. There is a horizontal cable running the length of the box that workers replacing the banner can fix their harnesses to during the banner change. Refer to photos 3 and 8.

Safety cables to stop the boxes falling onto the road during vehicle impact have been installed. Refer to photo 5 to 7.

3.0 Recommendations/ Conclusions

- The sign boxes are in accordance with the relevant Australian standards and Transport Corridor Outdoor Advertising and Signage Guidelines, NSW Government (November 2017)
  DBCE note there are safety cables fixed to the rear of each box and the bridge to prevent the sign boxes falling on traffic should it be impacted by high vehicles in accordance with Section 1.2 e of the guidelines.

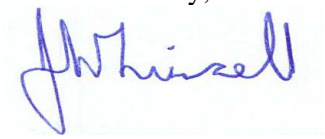
- The steel frames connecting the sign boxes to the bridge and the sign boxes are both galvanised and in good condition.

- The structure and the sign box are rated as category 2 by DBCE. ie Minimal damage, minor localised surface corrosion but serviceable. Re-inspection will be in November 2024, ie approximately 2 years from the time of the last inspection.

- There are presently no structural or safety issues requiring fixing.

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, NPER(Struct)
for Dennis Bunt Consulting Engineers Pty Ltd.

Photo 1

Photo 2

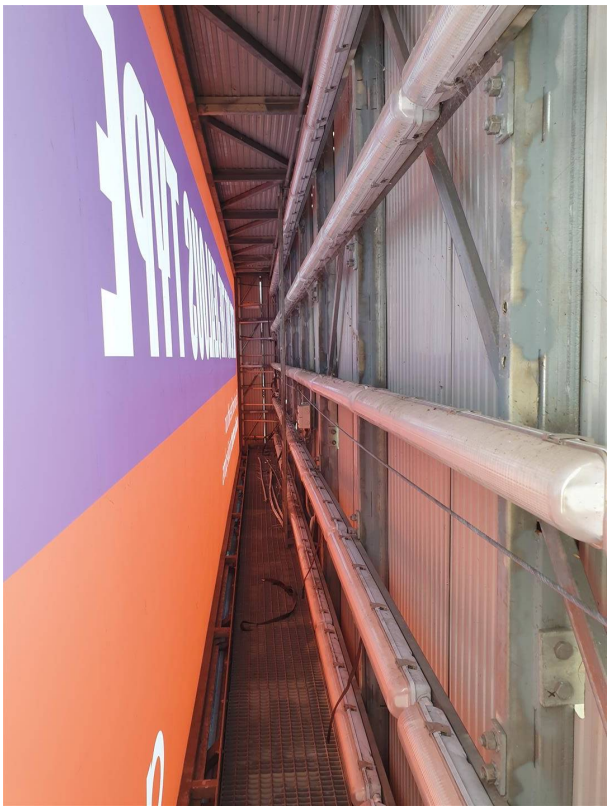


Photo 3

Photo 4

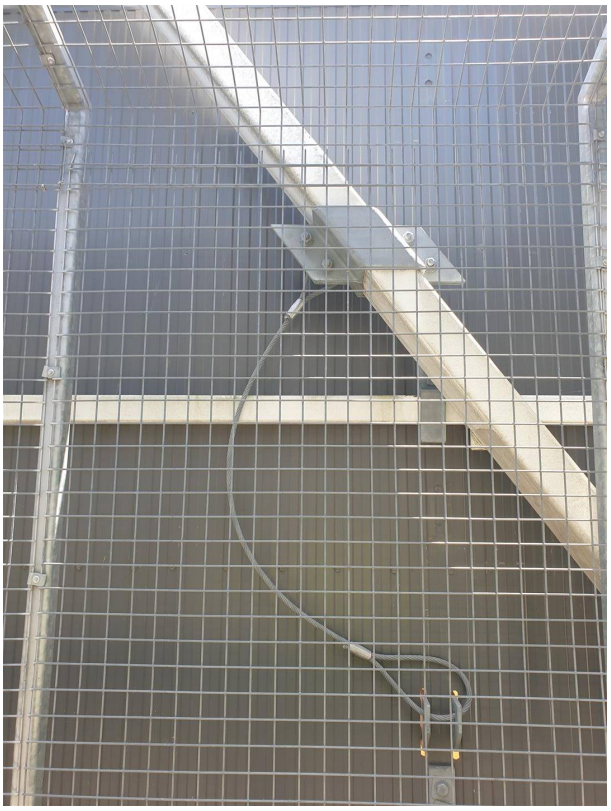


Photo 5

Photo 6

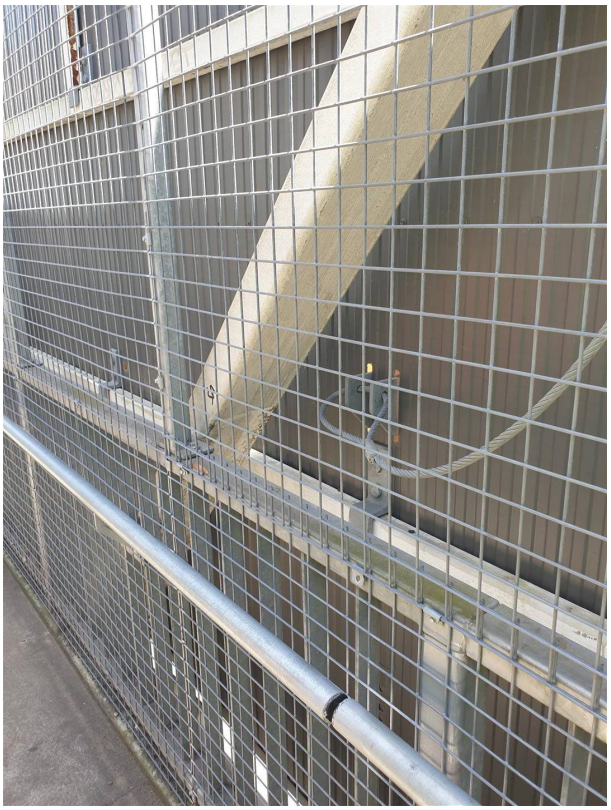


Photo 7

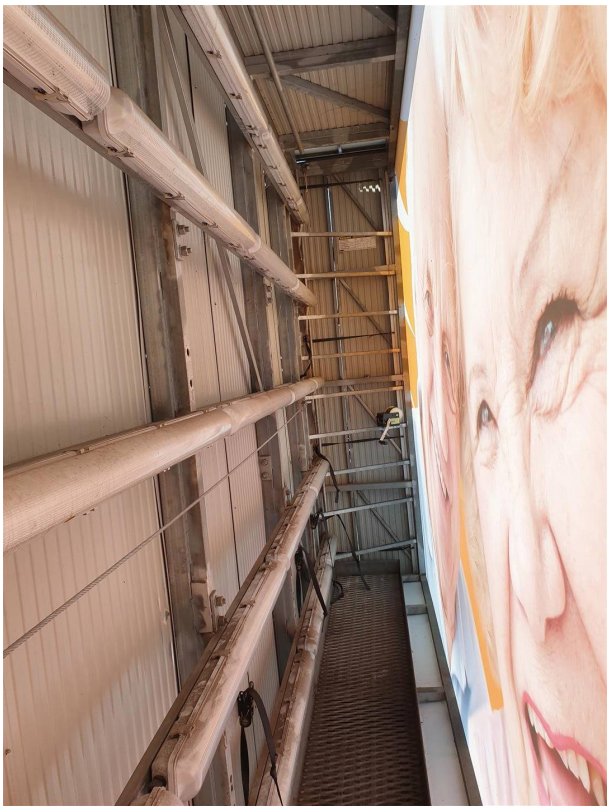


Photo 8

The Transport Planning Partnership
Suite 402 Level 4, 22 Atchison Street
St Leonards NSW 2065

P.O. Box 237
St Leonards NSW 1590

02 8437 7800

info@ttpp.net.au

www.ttpp.net.au