Cumberland Highway, Wentworthville
Digital Signage Safety Assessment

Prepared for:

JCDecaux

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The Transport Planning Partnership

Cumberland Highway, Wentworthville
Digital Signage Safety Assessment

Client: JCDecaux

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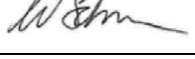
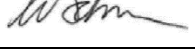
V03	10/02/22	Santi Botross	Wayne Johnson	Wayne Johnson	
V04	22/02/22	Santi Botross	Wayne Johnson	Wayne Johnson	

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1 Introduction

1.1 Overview

JCDecaux is seeking approval for the installation of a LED digital illuminated sign on the existing overhead railway bridge above Cumberland Highway in Wentworthville. The proposed digital sign is to be located on the north side of the railway bridge, facing southbound travel lanes on Cumberland Highway.

Transport for NSW (TfNSW), formerly Roads and Maritime Services require a signage safety assessment to be completed for the proposed digital signage.

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 State Environmental Planning Policy No. 64 – Advertising and Signage (SEPP 64). The Guidelines outline best practice for the planning and design of outdoor advertisements in transport corridors. The SEPP 64 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 digital sign 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 proposed digital sign above Cumberland Highway in Wentworthville.

The following items have been considered in this report:

- Potential for the sign to obstruct or distract a driver's view of the road, traffic control devices, and signalised mid-block pedestrian crossing.
- Distance from upstream or downstream intersections or other decision points, such as merge points and diverge points.
- Potential for the sign 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.
- Appropriate dwell time based on the speed environment.
- Location in relation to other signage.

1.3 Consultation with Authorities

The Applicant has amended the scope of the proposal from two digital signs to one digital sign facing the southbound traffic flow. As such, this assessment has been amended to respond to the digital sign proposed on the north side of the railway bridge.

The proposed digital sign would not be located directly behind the traffic signal lanterns for Cumberland Highway southbound traffic, as shown in Figure 2.4.

Following feedback at pre-DA stage prior to lodgement, the Applicant has modified the proposal to ensure safety is not compromised, as follows:

1. The digital sign has been repositioned to the west by 600 mm to ensure the sign is centrally located between the primary/ tertiary signal lanterns and the secondary/ dual primary lanterns.
2. The shroud on both sides of the digital sign has increased from 800 mm to 1,300 mm to further increase the clearance between the digital sign and the signal lanterns.
3. Increase the dwell time from 10 seconds (the minimum requirement for a 70 km/h speed zone) to 25 seconds.

Lastly, it is noted that visibility of the primary lantern for southbound traffic in Lane 1 is not ideal on approach to Wentworth Street. As can be seen in Figure 1.1 and Figure 1.2, existing vegetation obscures sight lines towards the primary and tertiary lanterns. This existing road safety concern is exacerbated when large trucks are traveling in lane two and obscure sight lines towards the secondary and dual primary signal lanterns.

This existing road safety concern could be resolved by regular trimming of roadside vegetation, which would improve sight lines towards the primary and tertiary signal lanterns, as shown in Figure 1.2.

Figure 1.1: Cumberland Highway Southbound Approach – Approximately 70m from signals

Source: Photograph taken by TTPP on 3/11/2021

Figure 1.2: Cumberland Highway Southbound Approach – Approximately 50 m from Signals

Source: Photograph taken by TTPP on 3/11/2021

1.4 References

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

- An inspection of the sign location from a driving viewpoint along Cumberland Highway was carried out on Wednesday 3 November 2021.
- Austroads Guide to Road Design Part 3, Geometric Design, 2016.
- Transport Corridor Outdoor Advertising and Signage Guidelines, November 2017 by Department of Planning and Environment.
- State Environmental Planning Policy No. 64 - Advertising and Signage (SEPP 64).
- Design plans of the proposed digital sign dated 07/02/2022.

2 Proposal Description

2.1 Location Details

A new digital sign is proposed to be installed on the northern facade of an existing overhead railway bridge across Cumberland Highway in Wentworthville. Cumberland Highway has three travel lanes in the northbound and southbound direction.

The posted speed limit on Cumberland Highway is 70 km/h. The railway bridge is situated in close proximity to the intersection of Cumberland Highway and Wentworth Avenue.

An aerial image of the sign location and surrounding environs are shown in Figure 2.1.

Figure 2.1: Signage Location

Basemap source: Nearmap, aerial imagery dated 11 November 2021

2.2 Description of Proposed Signage

As per the SEPP 64, the advertising display area is defined as follows:

> *"advertising display area means, subject to subclause (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 and visual display area (the screen alone) for the proposed digital sign would be as follows:

- Sign facing the North Approach:
  - Advertising display area: 50.92 m^2 (15.130 m width by 3.350 m height plus "JCDecaux" logo 1.083 m width by 0.220 m height).
  - Visual display area: 39.94 m^2 (12.480 m width by 3.200 m height).

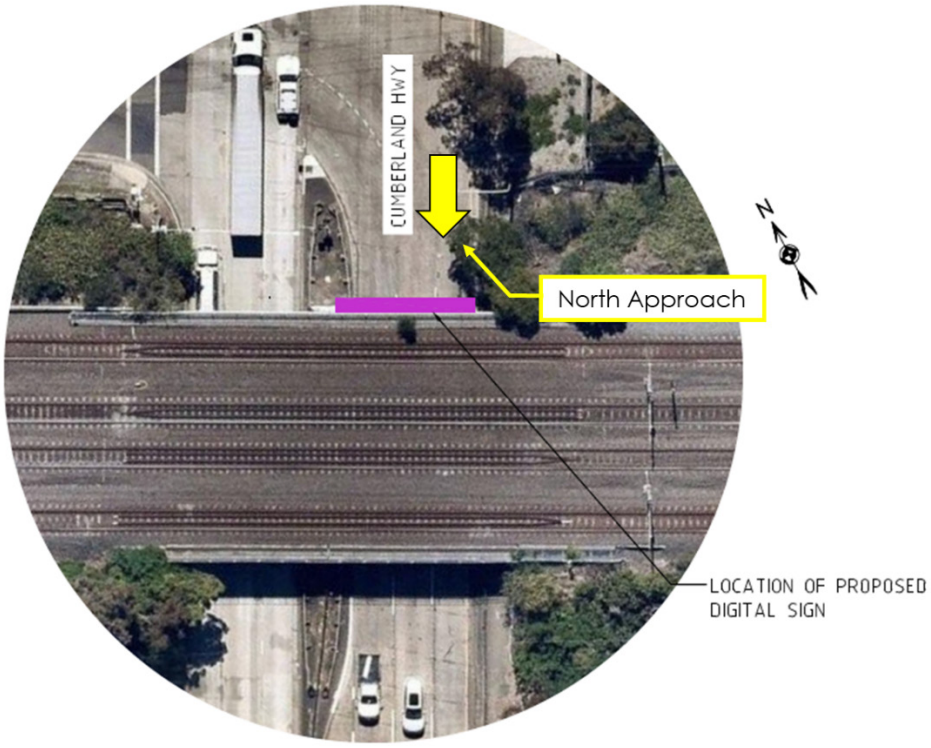
On the north approach, the digital sign would be set upon a black perforated mesh cladding which would visually appear as a plain background behind the visual display area. The current vertical clearance to the underside of the railway bridge would be maintained. Concept drawings of the digital sign are contained in Appendix A.

The digital sign with LED panel will be installed on the north side of the railway bridge to face the three southbound travel lanes on Cumberland Highway. The proposed digital sign will be used by JCDecaux to promote its sponsors and third-party advertising. The digital sign will contain text and images.

2.3 Signage Exposure

The proposed digital sign would be visible to traffic travelling southbound on Cumberland Highway, as shown in Figure 2.2. A site visit was undertaken on Wednesday 3 November 2021 to inspect driver sight distances on the north approach to the proposed sign location and observe any potential crash hazards likely to result from the proposed digital sign. A description of the site investigation findings is provided herein.

Figure 2.2: Cumberland Highway Approaches



2.3.1 Cumberland Highway North Approach

There are three travel lanes on the Cumberland Highway north approach towards the proposed sign location as shown in Figure 2.3.

Figure 2.3: Cumberland Highway North Approach Lane Configuration

Source: Photograph taken by TTPP on 3/11/2021

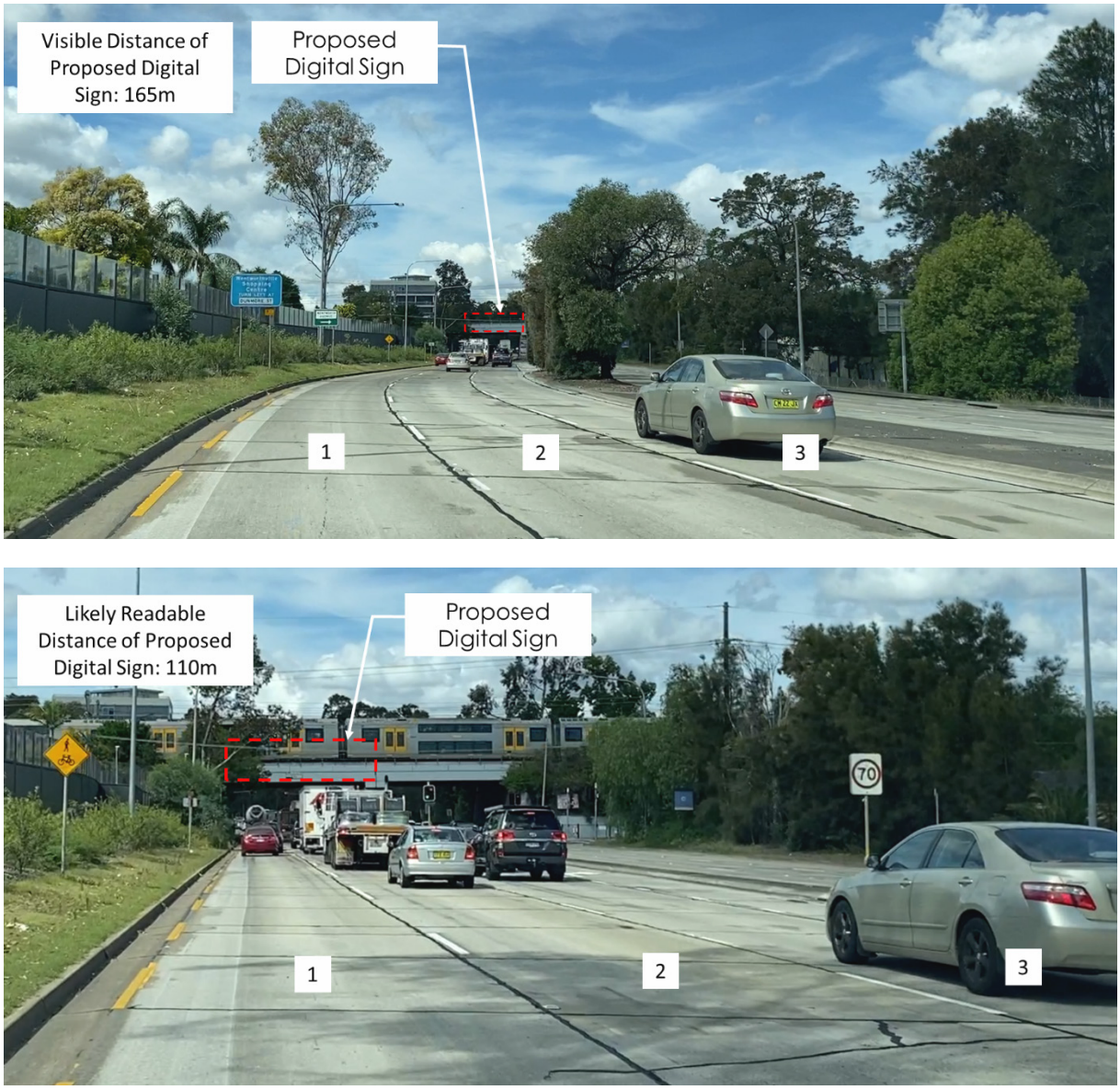
- The north facing digital sign would be visible to motorists on Cumberland Highway travelling southbound.
- This section of Cumberland Highway connects Old Windsor Road with Great Western Highway. Therefore, this section of highway carries a high volume of traffic across the majority of the day.
- Treating the observed conditions during the site inspection as typical conditions in the area, the digital sign would likely be visible in traffic lanes as follows:
  - In Lane 1 (through lane), 165 m from the sign on the north approach.
  - In Lane 2 (through lane), 155 m from the sign on the north approach.
  - In Lane 3 (through lane), 150 m from the sign on the north approach.
- The likely readable distance would be 110 m across all three lanes, where there are no vehicles travelling in adjacent lanes or opposing lanes which could impede driver visibility to the sign.
- There is no existing signage at this location, and therefore, the likely readable distance is based on the likely text font and sizing which is displayed in the designer's impression as shown in Figure 2.4.
- In all lanes, the digital sign would become out of driving view approximately 10 m north of the proposed sign.

Figure 2.4 shows the perspective of the designer's impression of the concept design at the proposed sign location. Likely visible and readable distances on the Cumberland Highway north approach are shown in Figure 2.5 to Figure 2.7.

Figure 2.4: Designer's Impression on North Approach

Source: JCDecaux

Figure 2.5: North Approach Sign Exposure – Lane 1

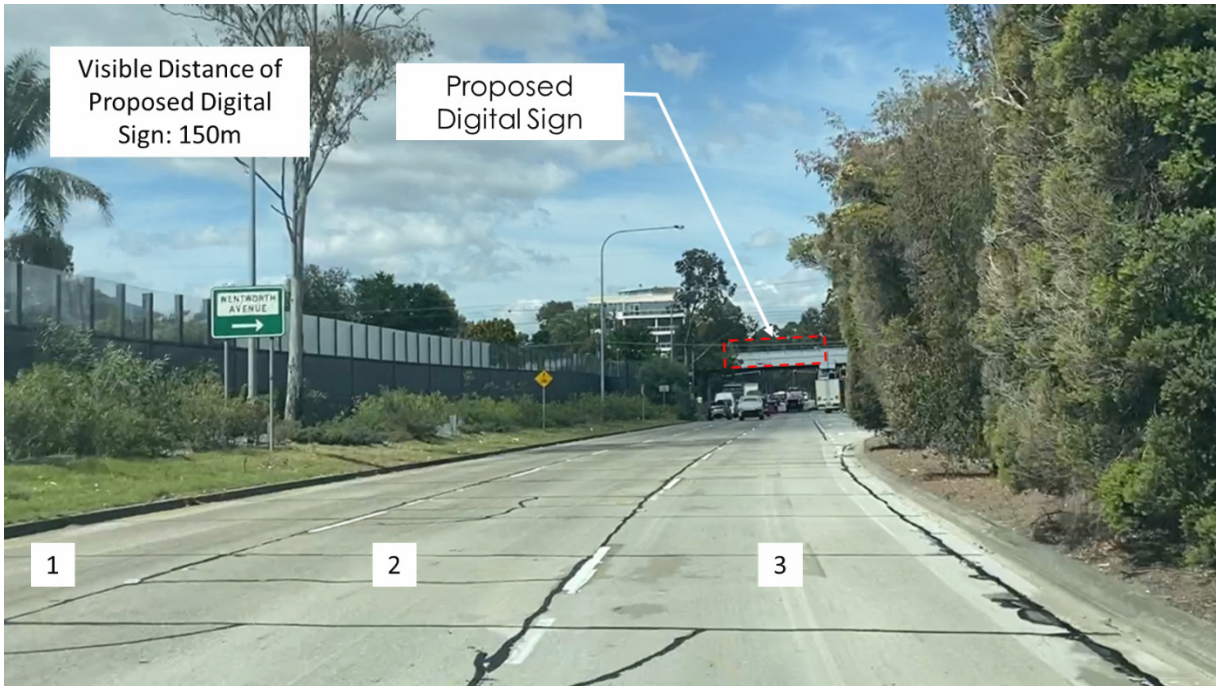


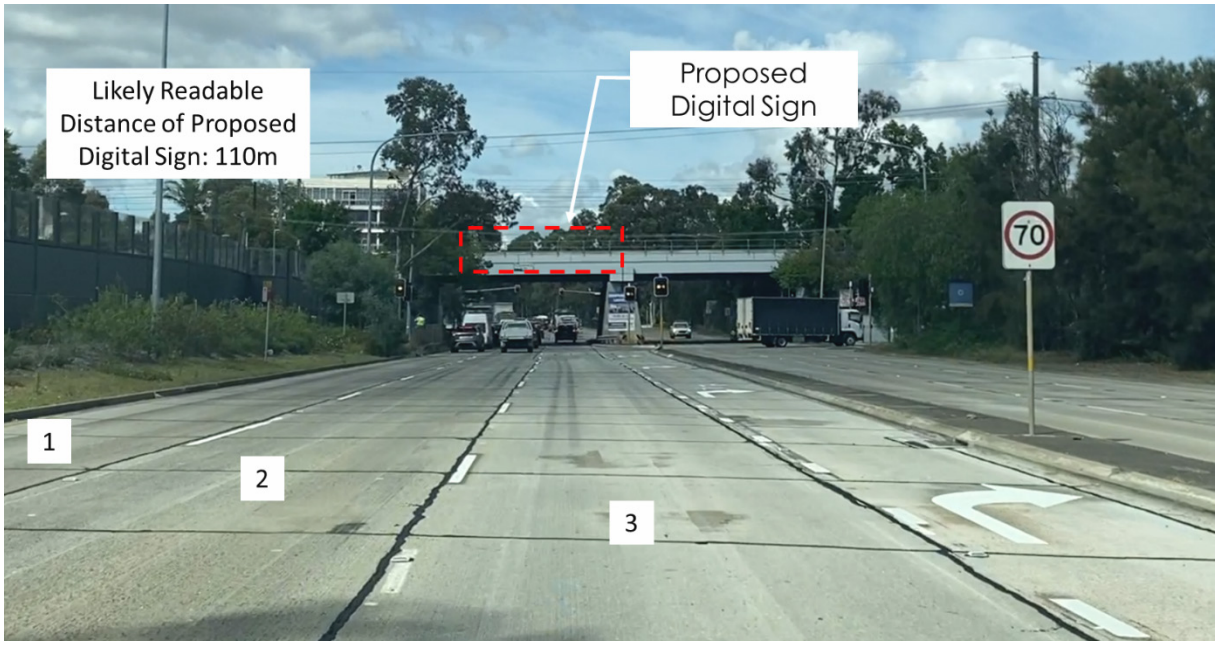
Source: Photograph taken by TTPP dated 03/11/2021

Figure 2.6: North Approach Sign Exposure – Lane 2

Source: Photograph taken by TTPP dated 03/11/2021

Figure 2.7: North Approach Sign Exposure – Lane 3





Source: Photograph taken by TTPP dated 03/11/2021

2.4 Crash History

Historic crash data has been obtained from Transport for NSW (TfNSW) and assessed for incidents on Cumberland Highway within the readable distance of the proposed digital sign. The digital sign would be readable from approximately 110 m on the north approach.

Crash history data has been assessed on the west approach to the proposed digital sign for the most recent five-year period for data collated and published by TfNSW. This period is between 1 January 2016 and 31 December 2020.

On the north approach, six incidents were recorded within 110 m in the southbound direction approaching the proposed digital sign. Of these six incidents, three crashes resulted in a serious injury, one crash was minor injury, and two incidents were classified as non-casualty (tow-away). Two crashes were serious injury crashes involving a pedestrian crossing at the nearside and far side of the Cumberland Highway - Wentworth Avenue intersection. The other serious injury crash was a right-through crash type where a vehicle travelling southbound on Cumberland Highway turned right onto Wentworth Avenue and collided into a vehicle travelling northbound on Cumberland Highway. There was second incident like this which resulted in a vehicle tow-away. Two rear-end crashes were recorded which resulted in a minor injury and a vehicle tow-away.

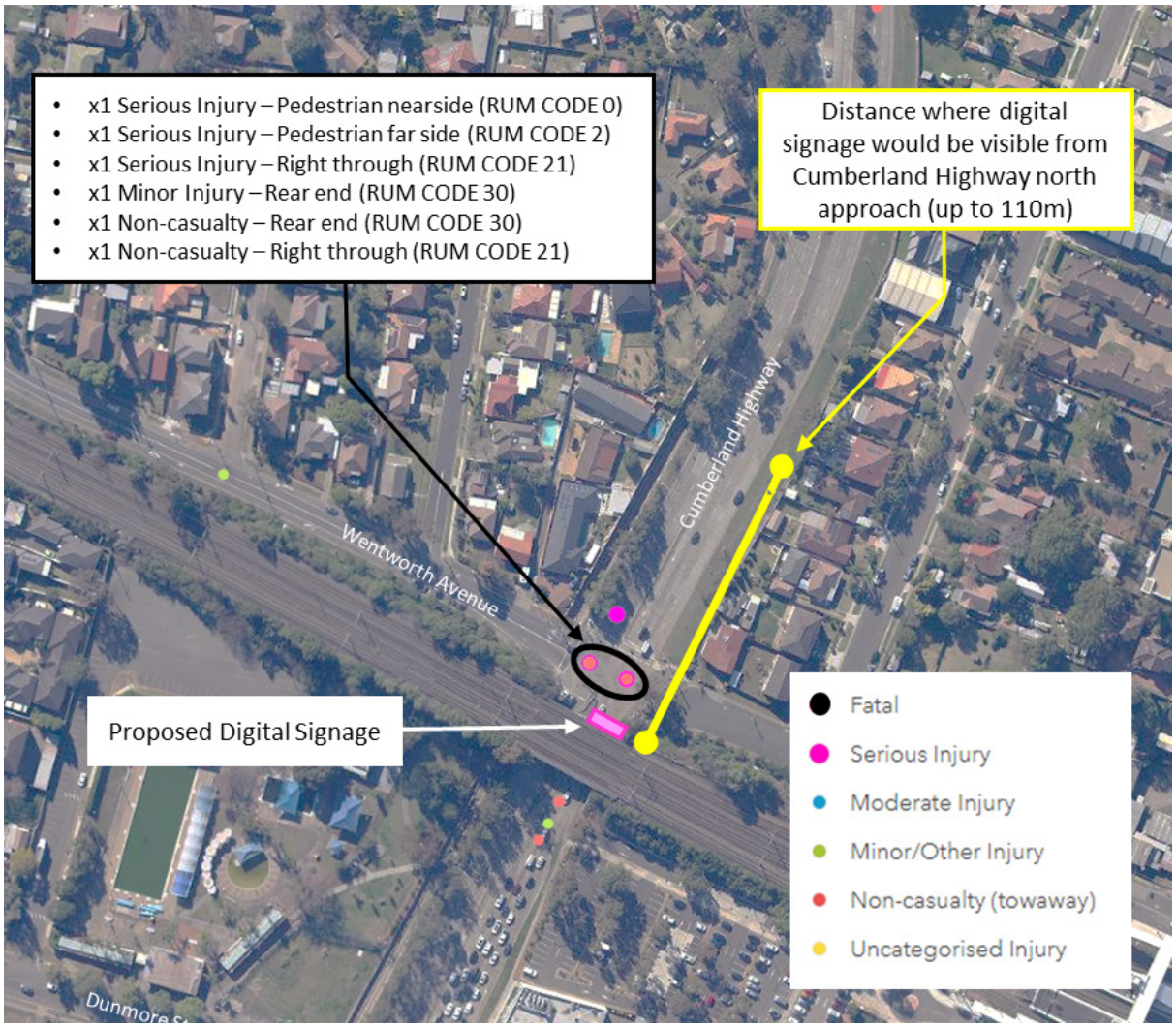
A summary of crashes in the vicinity of the proposed digital sign is presented in Table 2.1, while the crash location and incident description are illustrated in Figure 2.8.

Table 2.1: Crash Type and Severity

Location	Crash Type	Crash Severity (No. of Crashes)				
		Fatality	Serious Injury	Moderate Injury	Minor Injury	Non-casualty (tow-away)
Within readable distance of digital sign on Cumberland Hwy north approach (up to 110 m away from signage)	Pedestrian Nearside (RUM CODE 0)		1			
	Pedestrian Far Side (RUM CODE 2)		1			
	Right Through (RUM CODE 21)		1			1
	Rear End (RUM CODE 30)				1	1
	Total	**0**	**3**	**0**	**1**	**2**

Source: Transport for NSW

Figure 2.8: Crash Locations in Recent 5-Year Period



Source: Transport for NSW

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 (SEPP) 64. 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 SEPP 64 Schedule 1

Clauses 1 to 7 of the SEPP 64 – Schedule 1 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 pedestrians or bicyclists?
(c) Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas.

Provision of a digital advertising sign on the north side of the overhead railway bridge across Cumberland Highway is unlikely to reduce safety for motorists, pedestrians or cyclists.

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 Guidelines)

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

It is noted that most of the criteria are related to signage content and would need to be addressed by the operator. In addition, this criterion should be included as part of the consent conditions for the proposal to ensure future compliance.

Table 3.1: Digital Sign Criteria (Section 2 of Guidelines)

Criteria, for Signs greater than or equal to 20m² Display Area		Comments
A	*Each advertisement must be displayed in a completely static manner, without any motion, for the approved dwell time as per criterion (d) below.*	Relates to sign content only.
B	*Message sequencing designed to make a driver anticipate the next message is prohibited across images presented on a sign and across a series of signs.*	Relates to sign content only.
C	*The image must not be capable of being mistaken:* *i. for a prescribed traffic control device because it has, for example, red, amber or green circles, octagons, crosses or triangles or shapes or patterns that may result in the advertisement being mistaken for a prescribed traffic control device, or* *ii. as text providing driving instructions to drivers.*	Relates to sign content only.
D	*Dwell times for image display are:* *i. 10 seconds for areas where the speed limit is below 80 km/h.* *ii. 25 seconds for areas where the speed limit is 80 km/h and over.*	As detailed in Section 3.3.1.3, a dwell time of 10 seconds would typically be suitable for the proposed digital sign facing southbound travel lanes. However, following feedback at pre-DA stage prior to lodgement (Section 1.3), the dwell time has been amended to 25 seconds.
E	*The transition time between messages must be no longer than 0.1seconds, and in the event of image failure, the default image must be a black screen.*	An almost instantaneous transition is likely to reduce the additional distraction potential for digital sign. It is assumed that this operational requirement would be met.
F	*Luminance levels must comply with the requirements in Section 3 (Transport Corridor Advertising Signage Guidelines).*	This sign would be classified as Zone 4. Zone 4 covers areas with generally low levels of off-street ambient lighting e.g. areas that have residential properties nearby.
G	*The images displayed on the sign must not otherwise unreasonably dazzle or distract drivers without limitation to their colouring or contain flickering or flashing content.*	It is assumed that this operational requirement would be met.
H	*The amount of text and information supplied on a sign should be kept to a minimum (e.g. no more than a driver can read at a short glance).*	Relates to sign content only.

Criteria, for Signs greater than or equal to 20m² Display Area		Comments
I	*Any signs 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.*	The sign is not located within a school zone.
J	*Each sign proposal must be assessed on a case by case basis including replacement of an existing fixed, scrolling or tri-vision sign with a digital sig n and in the instance of a sign being visible from each direction, both directions for each location must be assessed on their own merits.*	Noted.
K	*At any time, including where the speed limit in the area of the sign is changed, if detrimental effect is identified on road safety post installation of a digital sign, RMS reserves the right to re-assess the site using an independent RMS-accredited road safety auditor. Any safety issues identified by the auditor and options for rectifying the issues are to be discussed between RMS and the sign owner and operator.*	Noted.
L	*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.*	Noted.
M	*Signs greater than or equal to 20sqm must obtain RMS concurrence and must ensure the following minimum vertical clearances:* *i. 2.5m from lowest point of the sign above the road surface if located outside the clear zone* *ii. 5.5m from lowest point of the sign above the road surface if located within the clear zone (including shoulders and traffic lanes) or the deflection zone of a safety barrier if a safety barrier is installed.* *If attached to road infrastructure (such as an overpass), the sign must be located so that no portion of the advertising sign is lower than the minimum vertical clearance under the overpass or supporting structure at the corresponding location.*	The proposed digital sign would maintain the same vertical clearance as the existing railway bridge.
N	*An electronic log of a sign's operational activity must be maintained by the operator for the duration of the development consent and be available to the consent authority and/or RMS to allow a review of the sign's activity in case of a complaint.*	Noted.
O	*A road safety check which focuses on the effects of the placement and operation of all signs over 20sqm must be carried out in accordance with Part 3 of the RMS Guidelines for Road Safety Audit Practices after a 12-month period of operation but within 18 months of the signs installation. The road safety check must be carried out by an independent RMS-accredited road safety auditor who did not contribute to the original application documentation. A copy of the report is to be provided to RMS and any safety concerns identified by the auditor relating to the operation or installation of the sign must be rectified by the applicant. In cases where the applicant is the RMS, the report is to be provided to the Department of Planning and Environment as well.*	Noted.

3.3 Transport Corridor Outdoor Advertising and Signage Guidelines (Section 3 of 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 digital sign will not physically obstruct any vehicle, pedestrian and cyclist movements as it will be placed on the side of the railway bridge directly above Cumberland Highway. The digital sign will not protrude below the underside of the railway bridge, and hence the vertical clearance will be maintained as per existing conditions.

The concept design for the proposed sign and its positioning on the north side of the railway bridge is shown 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 supplements) or behind an RMS-approved crash barrier.

The digital sign board will be installed on the side of the railway bridge which is positioned above Cumberland Highway 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 digital sign board will not be located within the clear zone.

The proposed digital sign will be elevated slightly above the underside of the railway bridge and would not obstruct the existing vertical clearance signage. Hence, the existing available vertical clearance between the road surface and the underside of the railway bridge will 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.

As part of the detailed design phase, the proposed sign will be designed in accordance with Australian Standards AS1170.2 and AS1170.2 to meet the requirements for wind loading, whilst having consideration for the height of the sign board when under maximum vertical deflection.

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.

The digital sign will be positioned at the height of the railway bridge, not impeding the motorists' visibility of the road alignment. The digital sign would not protrude below the underside of the railway bridge, and hence would not be obstructing visibility to any vehicles, bicycle riders or pedestrians at crossings on Cumberland Highway.

(b) An advertisement must not obstruct a pedestrian or cyclist's view of the road.

The proposed sign will not obstruct pedestrian and cyclist's view of Cumberland Highway.

(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 sign will be positioned at the height of the existing railway bridge which would not impede a driver's visibility of the road alignment. The digital sign would not indicate misleading information or information contrary to the existing roadway. This is supported by the designer's impression of the proposed sign as depicted in Figure 2.4.

(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 proposed digital sign will be positioned within a driver's line of sight on approach on Cumberland Highway. In addition, the digital sign would be placed above the road therefore, a driver would not be required to turn their head away from the road in order to view the digital sign.

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 referenced in the Guide to Road Design, Part 3, sight distance refers to the distance required to enable a driver to react and stop before reaching a hazard. This distance is dependent on the operating (85th percentile) speed of the road, road gradient and other road characteristics.

For the purpose of this assessment, an operating speed of 70 km/h has been used to calculate the minimum SSD. A 70 km/h speed has been adopted based on the sign posted speed limit on Cumberland Highway (being 70 km/h) as well as the speed limit which motorists were observed to be driving during the site inspection. According to Austroads, the minimum safe stopping sight distance for a 70 km/h speed zone is 83 m.

On the north approach, the proposed sign would not be located within the safe stopping distance of a decision making or conflict point. The safe stopping distance is illustrated in Figure 3.1.

Figure 3.1: Safe Stopping Sight Distance – North Approach

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

Motorists on Wentworth Avenue travelling eastbound towards Cumberland Highway would not be able to view the digital sign. In addition, the motorist's view of the digital sign at the stop line would be obstructed by the frame of the vehicle as shown in Figure 3.2.

Figure 3.2: Motorist's View from Wentworth Avenue

Source: Photograph taken by TTPP dated 03/11/2021

As such, the proposed digital sign on the north approach would not be clearly visible to motorists on Wentworth Avenue.

(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.***

The proposed sign is elevated above road level such that the driver's view of any such road hazard, intersection or similar feature as specified in points (i) to (iv) above is maintained at all times in the vicinity of the proposed sign location. In addition, the proposed digital sign will be elevated slightly higher than the underside of the railway bridge to maintain clear visibility of the existing vertical clearance signs.

In regard of the above, the proposed sign would not distract a driver at a critical time.

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.

Currently there is a static poster sign on the central bridge support as shown in Figure 2.3, which would be removed from the bridge support prior to installation of the digital sign.

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.
(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 are not yet known since the project is still within the concept design stage. However, based on the example advertisements as depicted in the designer's impression (Figure 2.4), the sign would not display colours and shapes which could be mistaken for a traffic signal.

Notwithstanding this, it is recommended that the content of the proposed sign be reviewed against Table 5 of the NSW 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 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.

The digital sign is proposed to contain text and images. Based on the NSW Guidelines, the minimum dwell time for content displayed on the digital sign would be 10 seconds.

Initially, this was proposed to increase this to a minimum of 15 seconds. The basis for this recommendation is the Land and Environment Court Case, *Outdoor Systems Pty Ltd v Georges River Council and Roads and Maritime Services [2017] NSWLEC 1505*. In this case, a digital sign was proposed to be installed at the Princes Highway – Rocky Point Road intersection in Kogarah. The applicant proposed to modify the dwell time of the digital sign to 15 seconds (from 24 hours, as previously approved by RMS as the minimum dwell time). The

LEC deemed the reduced dwell time to 15 seconds appropriate on the basis that the crash history at the proposed signage location did not suggest that it was a "crash hotspot". This decision was driven by expert evidence provided by registered psychologist and RMS accredited Level 3 Road Safety Auditor, Carolyn Samsa, who spent five years working in the NSW Centre for Road Safety at the RTA and nine years advising industry associations representing outdoor advertising.

The LEC decision was further supported by the fact that during a 3-month period where the digital sign operated with a 10 second dwell time, there were no crashes reported in the vicinity of the sign. Furthermore, it was acknowledged in the court case that there were three other digital billboards that were previously approved and operational at signalised intersections within the Sydney basin with dwell times of approximately 10 seconds and yet there were no reported incidents of drivers being distracted by this signage as far as Samsa had been aware.

However, following feedback at pre-DA stage prior to lodgement (Section 1.3), the dwell time is proposed as 25 seconds.

The proposed digital sign is located on a classified road but is not within a school zone.

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 NSW Guidelines details assessment criteria to ensure that illumination and reflectance qualities of 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 proposed sign would not contain interactive technology or technology that enables opt-in direction communication with motorists. The digital sign would not be designed to make motorists anticipate information.

4 Conclusion

JCDecaux is proposing to install a digital sign on the north side of the railway bridge on Cumberland Highway, Wentworthville.

The proposal has been assessed against the following statutory requirements for digital advertising signs:

- Transport Corridor Outdoor Advertising and Signage Guidelines,
- State Environmental Planning Policy (SEPP) 64.

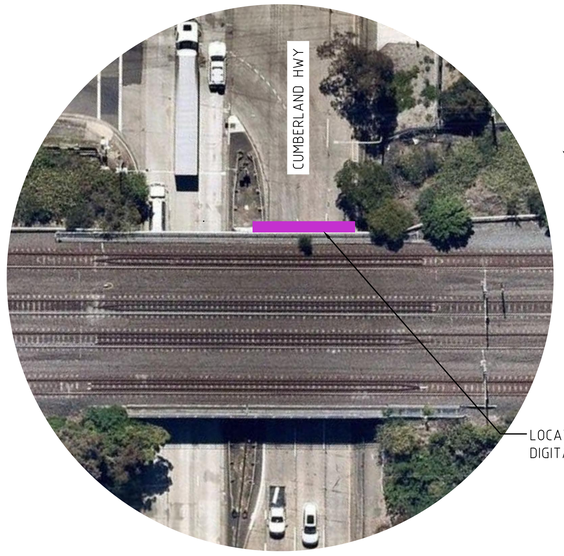
The following findings and conclusions are made from our road safety assessment:

- Six crashes have occurred on the north approach to the digital sign location between 1 January 2016 and 31 December 2020.
- The proposed sign would not obstruct/ reduce visibility of any traffic control devices, signage, pedestrians or cyclists.
- The proposed sign would not give incorrect information on the alignment of the road.
- The sign is located within the driver's peripheral vision.
- The proposed sign on the north approach would not be located within the safe stopping distance to traffic signals, crossings or directional/ information signage or any other decision/ conflict point.
- Cumberland Highway has a posted speed limit of 70 km/h. As such, a dwell time of 10 seconds for the digital sign is typically suitable. Following feedback at pre-DA stage prior to lodgement, the dwell time is proposed as 25 seconds.
- The proposed sign would not compromise safety for road users in the vicinity.

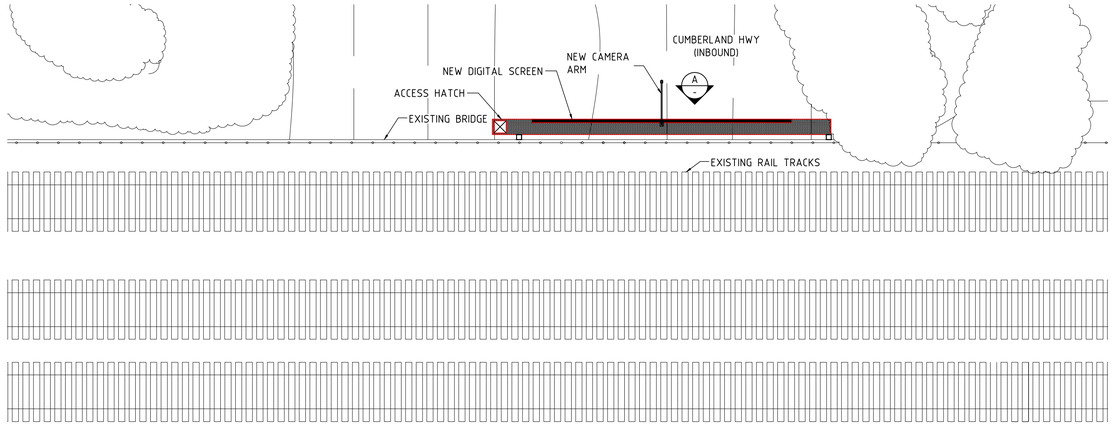
Having consideration for the signage safety assessment and discussions presented within this report, the analysis shows that the installation of a digital sign on the north side of the existing railway bridge across Cumberland Highway would be acceptable from a road safety perspective.

Appendix A

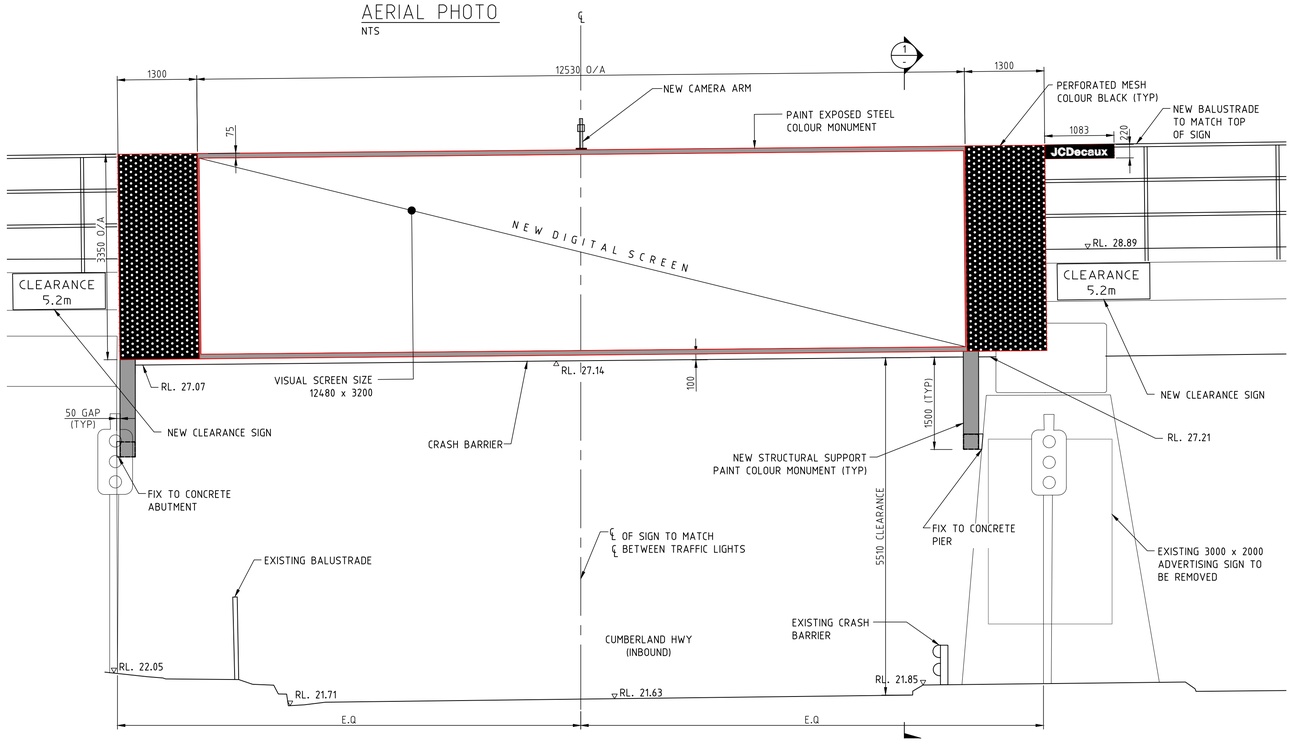
Concept Design Plans



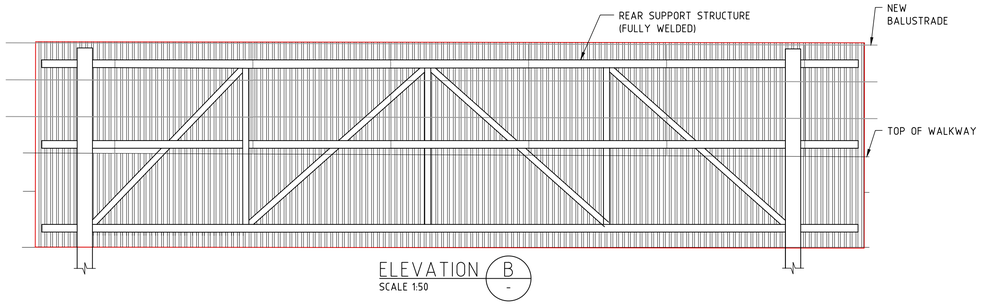
AERIAL PHOTO
NTS



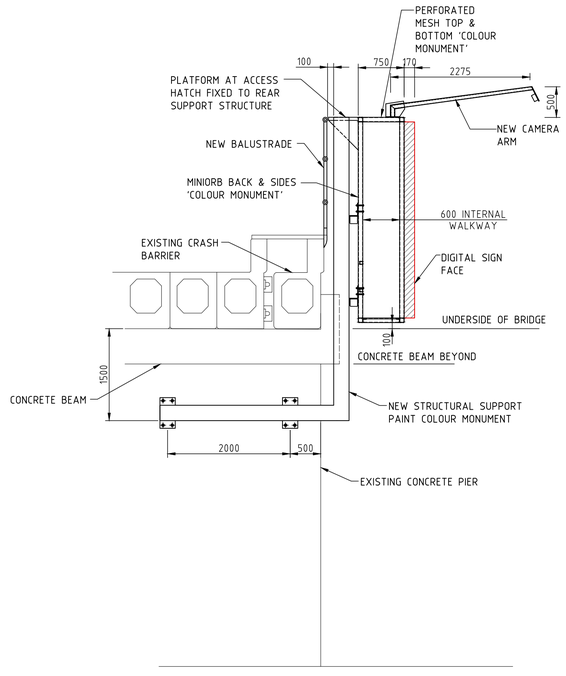
SITE PLAN
SCALE 1:150



ELEVATION A (NORTH ELEVATION)
SCALE 1:50



ELEVATION B
SCALE 1:50



SECTION 1
SCALE 1:50

NOT FOR CONSTRUCTION

ISS	DATE	COMMENT
B	18/11/21	ISSUED FOR APPROVAL
C	22/11/21	ISSUED FOR APPROVAL
D	06/12/21	ISSUED FOR APPROVAL
E	07/12/21	ISSUED FOR APPROVAL
F	07/02/22	ISSUED FOR APPROVAL
G	16/02/22	ISSUED FOR APPROVAL

Dennis Bunt Consulting Engineers Pty Ltd
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Frenchs Forest, NSW 2086
P.O. Box 652, Forestville, NSW 2087
Ph: 02 9451 3455 Fax: 02 9451 3466
Email: info@dbce.com.au
ABN 23 039 013 724

CLIENT: JCDecaux

PROJECT: CUMBERLAND HWY , WENTWORTHVILLE, SUPERSITES (NORTH ELEVATION)

TITLE: PROPOSED DIGITAL SIGN GENERAL ARRANGEMENT & SITE PLAN

DRAWN A.T	DESIGN J.L	DATE: NOV 21
JOB NO: 21265		DWG NO: DA01
SCALE @ A1: AS SHOWN		REV: G

Appendix B

State Environmental Planning Policy (SEPP) 64 – Schedule 1

State Environmental Planning Policy No 64—Advertising and Signage (2001 EPI 199)

Current version for 22 January 2021 to date (accessed 16 November 2021 at 12:18)

New South Wales

Schedule 1 Assessment criteria

(Clauses 8, 13 and 17)

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?

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