INFRASTRUCTURE POLICY COMMITTEE

AGENDA

2 DECEMBER 2025

Notice is hereby given, in accordance with the provisions of the Local Government Act 1993 that an **INFRASTRUCTURE POLICY COMMITTEE MEETING of ORANGE CITY COUNCIL** will be held in the **COUNCIL CHAMBER, CIVIC CENTRE, BYNG STREET, ORANGE on Tuesday, 2 December 2025.**

Barry Omundson

CHIEF EXECUTIVE OFFICER

For apologies please contact Executive Support on 6393 8391.

AGENDA

1 INTRODUCTION

MEMBERS

Cr J Whitton (Chairperson), Cr T Mileto (Mayor), Cr T Greenhalgh (Deputy Mayor), Cr K Duffy, Cr G Judge, Cr F Kinghorne, Cr D Mallard, Cr M McDonell, Cr S Peterson, Cr G Power, Cr M Ruddy, Cr J Stedman

1.1 Apologies and Leave of Absence

1.2 Declaration of pecuniary interests, significant non-pecuniary interests and less than significant non-pecuniary interests

The provisions of Chapter 14 of the Local Government Act, 1993 (the Act) regulate the way in which Councillors and designated staff of Council conduct themselves to ensure that there is no conflict between their private interests and their public role.

The Act prescribes that where a member of Council (or a Committee of Council) has a direct or indirect financial (pecuniary) interest in a matter to be considered at a meeting of the Council (or Committee), that interest must be disclosed as soon as practicable after the start of the meeting and the reasons given for declaring such interest.

As members are aware, the provisions of the Local Government Act restrict any member who has declared a pecuniary interest in any matter from participating in the discussion or voting on that matter, and requires that member to vacate the Chamber.

Council's Code of Conduct provides that if members have a non-pecuniary conflict of interest, the nature of the conflict must be disclosed. The Code of Conduct also provides for a number of ways in which a member may manage non pecuniary conflicts of interest.

RECOMMENDATION

It is recommended that Committee Members now disclose any conflicts of interest in matters under consideration by the Infrastructure Policy Committee at this meeting.

2 COMMITTEE MINUTES

2.1 Minutes of the Meeting of the Local Transport Forum - 11 November 2025

RECORD NUMBER: 2025/2515
AUTHOR: Scott Maunder, Director Technical Services

EXECUTIVE SUMMARY

The Local Transport Forum held a meeting on 11 November 2025 and the recommendations from that meeting are presented to the Infrastructure Policy Committee for adoption.

LINK TO DELIVERY/OPERATIONAL PLAN

The recommendation in this report relates to the Delivery/Operational Plan strategy "9.2 Design and deliver the road infrastructure for a growing city".

FINANCIAL IMPLICATIONS

Nil

POLICY AND GOVERNANCE IMPLICATIONS

Nil

RECOMMENDATION

1 **That Council acknowledge the reports presented to the Local Transport Forum at its meeting held on 11 November 2025.**

2 **That Council determine recommendations 3.1, 3.2 and 3.3 from the minutes of the Local Transport Forum meeting of 11 November 2025.**

3.1 – Request for 40km/h Speed Limit across Village of Spring Hill

That Council request NSW Police to further patrol Spring Hill and place the speed detection trailer within Spring Hill with no change to current speed limit.

3.2 – Proposed 2 Hour Parking – Mitchell Highway, Lucknow

That Council erect parallel parking across the frontage of 4621 and 4623 Mitchell Highway, Lucknow, as per figure A of this report.

3.3 – DA 233/2025(1) – Digital Freestanding Billboard Sign – 33 Colliers Avenue, Orange

That this matter be deferred to allow further research into the safety impacts of electronic advertising signs on road users and crash data and that the information be reported back to the LTF as an electronic meeting.

3 **That the remainder of the minutes of the Local Transport Forum from its meeting held on 11 November 2025 be adopted.**

FURTHER CONSIDERATIONS

The recommendation of this report has been assessed against Council's key risk categories and the following comments are provided:

Service/Project Delivery	Nil.
Financial	Nil.
Reputation/Political	Nil.
Environment	Nil.
Compliance	Nil.
People & WHS	Nil.
Information Technology/ Cyber Security	Nil.

2.1 Minutes of the Meeting of the Local Transport Forum - 11 November 2025

Council should note the recommendation from Item 3.3 DA 233/2025(1) – Digital Freestanding Billboard Sign – 33 Colliers Avenue was addressed at an electronic extraordinary LTF meeting 17 November 2025.

ATTACHMENTS

1 Minutes of the Meeting of the Local Transport Forum held on 11 November 2025, 2025/2376⇩

2 Agenda of the Meeting of the Local Transport Forum held on 11 November 2025, 2025/2364⇩

ORANGE CITY COUNCIL

MINUTES OF THE LOCAL TRANSPORT FORUM

HELD IN COMMITTEE ROOM 3, CIVIC CENTRE, BYNG STREET, ORANGE

ON 11 NOVEMBER 2025

COMMENCING AT 9:30 AM

1 INTRODUCTION

ATTENDANCE

Cr Tony Mileto (Chairperson), Cr Marea Ruddy, Mr Richard Drooger (TfNSW), Sgt Yonneka Hill (NSW Police), Mr Kel Gardiner (Local MP Representative), Acting/Director Technical Services, Works Manager, Manager Engineering Services, Road Safety Officer, Senior Parking Officer, Parking Officer, Divisional Administration Officer

1.1 APOLOGIES

RECOMMENDATION **Mr K Gardiner/Sgt Y Hill**

That the apologies be accepted from Cr Marea Ruddy and Detective Acting Inspector Glenn Griffith for the Local Transport Forum meeting on 11 November 2025.

1.2 ACKNOWLEDGEMENT OF COUNTRY

The Chairperson conducted an Acknowledgement of Country.

1.3 DECLARATION OF PECUNIARY INTERESTS, SIGNIFICANT NON-PECUNIARY INTERESTS AND LESS THAN SIGNIFICANT NON-PECUNIARY INTERESTS

Nil.

2 PREVIOUS MINUTES

RECOMMENDATION **Mr K Gardiner/Mr R Drooger**

That the Minutes of the Meeting of the Local Transport Forum held on 14 October 2025 (copies of which were circulated to all members) be and are hereby confirmed as a true and accurate record of the proceedings of the Local Transport Forum meeting held on 14 October 2025.

3 GENERAL REPORTS

3.1 REQUEST FOR 40KM/H SPEED LIMIT ACROSS VILLAGE OF SPRING HILL

TRIM REFERENCE: 2025/1141

RECOMMENDATION **Mr K Gardiner/Mr R Drooger**

That Council request NSW Police to further patrol Spring Hill and place the speed detection trailer within Spring Hill.

3.2 PROPOSED 2 HOUR PARKING - MITCHELL HIGHWAY, LUCKNOW

TRIM REFERENCE: 2025/2262

RECOMMENDATION **Sgt Y Hill/Mr K Gardiner**

That Council erect parallel parking across the frontage of 4621 and 4623 Mitchell Highway, Lucknow, as per figure A of this report.

3.3 DA 233/2025(1) - DIGITAL FREESTANDING BILLBOARD SIGN - 33 COLLIERS AVENUE, ORANGE

TRIM REFERENCE: 2025/2356

RECOMMENDATION

That this matter be deferred to allow further research into the safety impacts of electronic advertising signs on road users and crash data and that the information be reported back to the LTF as an electronic meeting.

THE MEETING CLOSED AT 10.35AM.

ORANGE CITY COUNCIL

LOCAL TRANSPORT FORUM

AGENDA

11 NOVEMBER 2025

Notice is hereby given, in accordance with the provisions of the Local Government Act 1993 that a **LOCAL TRANSPORT FORUM MEETING of ORANGE CITY COUNCIL** will be held in the **PEOPLE AND CULTURE MEETING ROOM, DOWNSTAIRS OF CIVIC CENTRE, BYNG STREET, ORANGE on Tuesday, 11 November 2025** commencing at **9:30 AM.**

Barry Omundson
CHIEF EXECUTIVE OFFICER
For apologies, please contact Jason Theakstone on 6393 8505.

Attachment 2 Agenda of the Meeting of the Local Transport Forum held on 11 November 2025

ORANGE CITY COUNCIL

LOCAL TRANSPORT FORUM
11 NOVEMBER 2025

AGENDA

EVACUATION PROCEDURE

In the event of an emergency, the building may be evacuated. You will be required to vacate the building. The Committee Clerk will now identify the emergency muster point.

Under no circumstances is anyone permitted to re-enter the building until the all clear has been given and the area deemed safe by authorised personnel.

In the event of an evacuation, a member of Council staff will assist any member of the public with a disability to vacate the building.

Attachment 2 Agenda of the Meeting of the Local Transport Forum held on 11 November 2025

1 INTRODUCTION

MEMBERS

Cr Tony Mileto (Chairperson), Cr Marea Ruddy, Mr Richard Drooger (TfNSW), Sgt Adam Cornish (NSW Police), Mr Kel Gardiner (Local MP Representative), Chief Executive Officer, Director Technical Services, Works Manager, Manager Engineering Services, Road Safety Officer, Senior Parking Officer, Parking Officer, Divisional Administration Officer

1.1 Apologies

1.2 Acknowledgement of Country

I would like to acknowledge the Traditional Custodians of the land on which we meet today, the people of the Wiradjuri Nation. I pay my respects to Elders past and present, and extend those respects to Aboriginal Peoples of Orange and surrounds, and Aboriginal people here with us today.

1.3 Declaration of pecuniary interests, significant non-pecuniary interests and less than significant non-pecuniary interests

The provisions of Chapter 14 of the Local Government Act, 1993 (the Act) regulate the way in which Councillors and designated staff of Council conduct themselves to ensure that there is no conflict between their private interests and their public role.

The Act prescribes that where a member of Council (or a Committee of Council) has a direct or indirect financial (pecuniary) interest in a matter to be considered at a meeting of the Council (or Committee), that interest must be disclosed as soon as practicable after the start of the meeting and the reasons given for declaring such interest.

As members are aware, the provisions of the Local Government Act restrict any member who has declared a pecuniary interest in any matter from participating in the discussion or voting on that matter, and requires that member to vacate the Chamber.

Council's Code of Conduct provides that if members have a non-pecuniary conflict of interest, the nature of the conflict must be disclosed. The Code of Conduct also provides for a number of ways in which a member may manage non pecuniary conflicts of interest.

RECOMMENDATION

It is recommended that Committee Members now disclose any conflicts of interest in matters under consideration by the Local Transport Forum at this meeting.

2 PREVIOUS MINUTES

RECOMMENDATION

That the Minutes of the Meeting of the Local Transport Forum held on 14 October 2025 (copies of which were circulated to all members) be and are hereby confirmed as a true and accurate records of the proceedings of the Local Transport Forum meeting held on 14 October 2025.

ATTACHMENTS

1 Minutes of the Meeting of the Local Transport Forum held on 14 October 2025

ORANGE CITY COUNCIL

MINUTES OF THE LOCAL TRANSPORT FORUM

HELD IN COMMITTEE ROOM 3, CIVIC CENTRE, BYNG STREET, ORANGE

ON 14 OCTOBER 2025

COMMENCING AT 9:35 AM

1 INTRODUCTION

ATTENDANCE

Cr Tony Mileto (Chairperson), Mr Richard Drooger (TfNSW), Mr Kel Gardiner (Local MP Representative), Detective Sergeant Glenn Griffiths, Chief Inspector David Mahar, Works Manager, Manager Engineering Services, Divisional Administration Officer

1.1 APOLOGIES

RECOMMENDATION **Mr K Gardiner/Mr R Drooger**

That the apology be accepted from Sgt Adam Cornish (NSW Police) for the Local Transport Forum meeting on 14 October 2025.

1.2 ACKNOWLEDGEMENT OF COUNTRY

The Chairperson conducted an Acknowledgement of Country.

1.3 DECLARATION OF PECUNIARY INTERESTS, SIGNIFICANT NON-PECUNIARY INTERESTS AND LESS THAN SIGNIFICANT NON-PECUNIARY INTERESTS

Nil.

2 PREVIOUS MINUTES

RECOMMENDATION **Mr K Gardiner/Mr R Drooger**

That the Minutes of the Meeting of the Local Transport Forum held on 9 September 2025 (copies of which were circulated to all members) be and are hereby confirmed as a true and accurate record of the proceedings of the Local Transport Forum meeting held on 9 September 2025.

3 GENERAL REPORTS

3.1 PARKING CHANGES AT PEISLEY STREET AND MOULDER STREET

TRIM REFERENCE: 2025/2054

RECOMMENDATION **Cr T Mileto/Mr R Drooger**

That Council change the all-day parking, between 101-105 Peisley Street, to 30-minute parallel parking and line mark the existing 45 degree parking on Moulder Street (between 101 Peisley Street and 121 Moulder Street) as per Figure A of the report.

3.2 NORTHERN LOADING ZONE IN SALE ST CAR PARK

TRIM REFERENCE: 2025/2072

RECOMMENDATION **Mr K Gardiner/Mr R Drooger**

That Council:

1 Move the existing loading zone 9.8m west in the Sale Street carpark as per figure A of the report.
2 Replace the existing loading zone in front of the Provincial Café with 4 additional car parks.

3.3 EVENT - ZEST FEST - 1 NOVEMBER 2025

TRIM REFERENCE: 2025/1911

RECOMMENDATION **Mr K Gardiner/Mr R Drooger**

That Council approve the closure of Byng Street (Lords Place to Peisley Street), McNamara Street (Byng Street to Summer Street) and Lords Place (Byng Street to Summer Street – south bound) between 8.00am on 1 November 2025 and 6.00am Sunday 2 November 2025 for Zest Fest subject to the attached Conditions of Consent for a three (3) year period.

3.4 STREET EVENT - 2025 SANTA PARADE

TRIM REFERENCE: 2025/2098

RECOMMENDATION **Cr T Mileto/Mr K Gardiner**

That Council approve the conditional approval for the Santa Parade event to be held on Saturday 22 November 2025.

3.5 PARKING IN STEPHEN PLACE - REQUEST FOR NO STOPPING ZONE

TRIM REFERENCE: 2025/2151

RECOMMENDATION **Mr K Gardiner/Mr R Drooger**

That the Local Transport Forum meet onsite at Appledale Processors Co-operative Ltd – 5 Stephen Place, to discuss issues with trucks entering premises as well as trucks loading/unloading on the street.

THE MEETING CLOSED AT 10.05AM.

3 GENERAL REPORTS

3.1 Request for 40km/h Speed Limit Across Village of Spring Hill

RECORD NUMBER: 2025/1141
AUTHOR: Jason Theakstone, Manager Engineering Services

EXECUTIVE SUMMARY
The Spring Hill Community Committee has asked that Council consider a 40km/h speed limit across the whole village of Spring Hill.

LINK TO DELIVERY/OPERATIONAL PLAN
The recommendation in this report relates to the Delivery/Operational Plan strategy "9.2 Design and deliver the road infrastructure for a growing city".

FINANCIAL IMPLICATIONS
TfNSW to finance new signage.

POLICY AND GOVERNANCE IMPLICATIONS
Nil

RECOMMENDATION

That Council request TfNSW to undertake a speed zone review with a view to impose a 40km/h speed zone within Spring Hill.

FURTHER CONSIDERATIONS
The recommendation of this report has been assessed against Council's key risk categories and the following comments are provided:

Service/Project Delivery	Requesting a speed zone review may impact timelines for related infrastructure or safety projects.
Financial	Any resulting changes may require funding for signage, roadworks, or community engagement.
Reputation/Political	Community views on speed zone changes may vary, potentially affecting Council's public perception.
Environment	Speed zone adjustments may influence traffic flow and emissions in the local area.
Compliance	The request must align with road safety regulations and TfNSW's assessment criteria.
People & WHS	Reviewing speed zones supports efforts to improve road safety for residents and visitors.
Information Technology/ Cyber Security	No direct IT or cybersecurity risks identified in relation to the speed zone review request.

Attachment 2 Agenda of the Meeting of the Local Transport Forum held on 11 November 2025

SUPPORTING INFORMATION

The Spring Hill Community Committee has asked that Council consider a 40km/h speed limit across the whole village of Spring Hill for the following reasons:

- Enhanced Safety
- Reduced traffic noise
- Improved walkability
- Consistent speed zones

TfNSW regulate speed zones in NSW and undertake a speed zone review prior to setting or amending speed zones.

TfNSW released new speed zone standard TS 03631:2.0 (23 September 2025) that is aligned to Movement and Place principles and enables a 40 km/h speed zone within Spring Hill.

It is recommended that Council ask TfNSW to undertake a speed zone review with a view to impose a 40km/h speed zone within Spring Hill.

ATTACHMENTS

1 Letter to Traffic Committee - Spring Hill 40 km/h, D25/62426

ORANGE CITY COUNCIL

D25/62426

3 June 2025

Dear Traffic Committee Chairperson,

REQUEST FOR SUPPORT RE: 40KM/H SPEED LIMIT ACROSS VILLAGE OF SPRING HILL

I am writing on behalf of the Spring Hill Community Committee to formally request support for the implementation and enforcement of a consistent 40km/h speed limit throughout the village.

Spring Hill is a vibrant and growing village with a diverse population, including many families with young children, elderly residents, and pedestrians who rely heavily on local roads for daily activities.

Unfortunately, current traffic speeds in many areas of the village are a cause for concern. There have been numerous observations of vehicles exceeding safe speeds, creating an environment that feels unsafe for walkers, cyclists, and residents.

Lowering and enforcing a uniform 40km/h speed limit would bring multiple benefits:

- **Enhanced safety** for pedestrians, cyclists, and motorists.
- **Reduced traffic noise**, contributing to a more peaceful residential atmosphere.
- **Improved walkability**, encouraging healthier and more environmentally friendly transport options.
- **Consistent speed zones**, reducing confusion for drivers and enhancing compliance.

Aligning the village speed limits with safety-first practices adopted in other similar residential areas would help prevent potential accidents and improve the lives of local residents.

We request that the Traffic Committee considers and supports a speed limit reduction before the Spring Hill Community Committee contacts Transport for New South Wales to conduct a formal review process.

Thank you for your attention to this matter. We welcome the opportunity to discuss this proposal further or assist in any community consultation that may be needed.

Yours sincerely

Cr Marea Ruddy
SPRING HILL COMMUNITY COMMITTEE CHAIR

PO Box 35, Orange NSW 2800 Australia
135 Byng Street, Orange NSW 2800 Australia
P: +61 2 6393 8000
F: +61 2 6393 8199
council@orange.nsw.gov.au
www.orange.nsw.gov.au

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3.2 Proposed 2 Hour Parking - Mitchell Highway, Lucknow

RECORD NUMBER: 2025/2262
AUTHOR: Jason Theakstone, Manager Engineering Services

EXECUTIVE SUMMARY

The owner of the property on the north west corner of Phoenix Mine Road and the Mitchell Highway has asked timed parking be installed in front of their business.

LINK TO DELIVERY/OPERATIONAL PLAN

The recommendation in this report relates to the Delivery/Operational Plan strategy "9.2 Design and deliver the road infrastructure for a growing city".

FINANCIAL IMPLICATIONS

$1,000 to be funded from the sign budget.

POLICY AND GOVERNANCE IMPLICATIONS

Nil

RECOMMENDATION

That Council erect 2-hour parking across the frontage of 4621 and 4623 Mitchell Highway, Lucknow, as per figure A of this report.

FURTHER CONSIDERATIONS

The recommendation of this report has been assessed against Council's key risk categories and the following comments are provided:

Service/Project Delivery	Nil with this recommendation
Financial	Nil with this recommendation
Reputation/Political	Nil with this recommendation
Environment	Nil with this recommendation
Compliance	Nil with this recommendation
People & WHS	Nil with this recommendation
Information Technology/Cyber Security	Nil with this recommendation

SUPPORTING INFORMATION

The owner of 4621 and 4623 Mitchell Highway, Lucknow has asked that timed parking be installed in front of their business.

It is recommended that Council install the 2-hour timed parking.

3.2 Proposed 2 Hour Parking - Mitchell Highway, Lucknow

Figure A

3.3 DA 233/2025(1) - Digital Freestanding Billboard Sign - 33 Colliers Avenue, Orange

RECORD NUMBER: 2025/2356
AUTHOR: Jason Theakstone, Manager Engineering Services

EXECUTIVE SUMMARY

At the Planning and Development Committee Meeting held on 4 November 2025, a report was tabled following a request from Regional Dooh Pty Ltd for the erection and display of a digital freestanding billboard sign at 33 Colliers Avenue, Orange.

LINK TO DELIVERY/OPERATIONAL PLAN

The recommendation in this report relates to the Delivery/Operational Plan strategy "7.3 Plan for growth and development that balances liveability with valuing the local environment".

FINANCIAL IMPLICATIONS

Nil

POLICY AND GOVERNANCE IMPLICATIONS

Nil

RECOMMENDATION

That the Local Transport Forum provide comments to the Planning and Development Committee Meeting on DA 233/2025(1) – 33 Colliers Avenue, Orange – Erection and Display of a Digital Freestanding Billboard Sign.

FURTHER CONSIDERATIONS

The recommendation of this report has been assessed against Council's key risk categories and the following comments are provided:

Service/Project Delivery	Nil
Financial	Decisions may lead to financial implications of legal appeals.
Reputation/Political	The outcome may attract public or political scrutiny, especially if perceived as inconsistent or contentious.
Environment	Nil
Compliance	The decision must align with planning legislation, regulation and controls and Council policies to avoid legal risk.
People & WHS	Development activities may introduce safety risks for workers, residents or the broader community.
Information Technology/ Cyber Security	Systems used to assess and manage the application must ensure data integrity and secure handling of sensitive information

SUPPORTING INFORMATION

At the Planning and Development Committee Meeting held on 4 November 2025, a report was tabled following a request from Regional Dooh Pty Ltd for the erection and display of a digital freestanding billboard sign at 33 Colliers Avenue, Orange.

At that meeting, it was resolved:

That Council resolves to DEFER development application DA 233/2025(1) for Advertisement (digital freestanding billboard sign) at Lot 95 DP 1180866, 33 Colliers Avenue, Orange for the purpose of obtaining more information and input from NSW Police and the Local Traffic Forum.

3.3 DA 233/2025(1) - Digital Freestanding Billboard Sign - 33 Colliers Avenue, Orange

A copy of the report is attached for the information of the LTF.

It is requested that the LTF provide comments on the DA as is, as well as an alternative on the DA if the sign was turned, on the same site, such that it was viewed by south-east bound (Bathurst direction) traffic.

The committee could be remiss in putting an advertising sign on the outside of a curve approaching a 5-leg roundabout. Should the sign be reversed the to face south-east bound traffic, power poles could become an off-road risk to consider as shown in the photos below.

It is recommended from the Manager of Engineering Services that the LTF recommend to Council not to approve this DA.

3.3 DA 233/2025(1) - Digital Freestanding Billboard Sign - 33 Colliers Avenue, Orange

ATTACHMENTS

1 PDC Report - Request for Digital Sign - 33 Colliers Avenue, Orange, D25/134645

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

RECORD NUMBER: 2025/2160
AUTHOR: Dhawala Ananda, Town Planner

EXECUTIVE SUMMARY

Application lodged	25 June 2025
Applicant/s	Regional Dooh Pty Ltd
Owner/s	Mr AW Turner
Land description	Lot 95 DP 1180866 - 33 Colliers Avenue, Orange
Proposed land use	Advertisement (digital freestanding billboard sign)
Value of proposed development	$95,000.00

Council's consent is sought for the erection and display of a digital freestanding billboard sign at 33 Colliers Avenue, Orange (Lot 95 DP 1180866).

The proposal involves an electronic promotion sign with a display face of 18.26m², primarily oriented toward northbound traffic on the Northern Distributor Road. A 0.27m² static business identification sign ('*Gawk*') will be affixed to the skirting board adjacent to the display face, resulting in a total advertising area of 18.53m².

The site is located within the E4 - General Industrial Zone, surrounded by industrial and commercial uses, and is adjacent to a major arterial road with high traffic volumes and complex traffic movements.

Following assessment, the proposal is not supported due to traffic safety concerns, including:

- The sign's location directly opposite a large multi-directional road sign, which requires drivers to make multiple decisions.
- Proximity to a major intersection involving multiple direction changes and decision-making points.
- The curvature of the road to the left, which may result in driver distraction toward the right, increasing the risk of vehicles drifting into oncoming traffic.

The proposal is considered inconsistent with the objectives of State Environmental Planning Policy (Industry and Employment) 2021, Chapter 3 - Advertising and Signage, particularly in relation to road safety and driver distraction, and is therefore recommended for refusal.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

Figure 1 - locality plan

Figure 2 - locality plan (aerial)

DECISION FRAMEWORK

Development in Orange is governed by two key documents Orange Local Environment Plan 2011 and Orange Development Control Plan 2004. In addition the Infill Guidelines are used to guide development, particularly in the heritage conservation areas and around heritage items.

Orange Local Environment Plan 2011 - The provisions of the LEP must be considered by the Council in determining the application. LEPs govern the types of development that are permissible or prohibited in different parts of the City and also provide some assessment criteria in specific circumstances. Uses are either permissible or not. The objectives of each zoning and indeed the aims of the LEP itself are also to be considered and can be used to guide decision making around appropriateness of development.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

Orange Development Control Plan 2004 - the DCP provides guidelines for development. In general it is a performance based document rather than prescriptive in nature. For each planning element there are often guidelines used. These guidelines indicate ways of achieving the planning outcomes. It is thus recognised that there may also be other solutions of merit. All design solutions are considered on merit by planning and building staff. Applications should clearly demonstrate how the planning outcomes are being met where alternative design solutions are proposed. The DCP enables developers and architects to use design to achieve the planning outcomes in alternative ways.

DIRECTOR'S COMMENTS

The signage is predominately intended for third-party advertising, with a small business identification sign below. The purpose of the third-party advertising is to attract the driver's attention and given the location of the sign, on a lefthand curve, approaching a complex roundabout system, the sign will pull the drivers eyes to the right, away from the natural road direction at a point in time that they need to be preparing for decisions immediately ahead. This proposes significant safety risks for northbound drivers, but more so for oncoming southbound traffic should a driver become distracted.

Further, the previous development consent (DA 284/2013) for this site required the establishment and maintenance of a landscaping strip along the rear boundary to enhance visual amenity and screen industrial development from the Northern Distributor Road. This landscaping has not been provided or maintained as required. Had the landscaping been in place, it would impact visibility to the proposed sign. The incomplete landscaping will be investigated.

Given the safety concerns of the proposed advertising sign and its inappropriate location, the sign is recommended for refusal.

LINK TO DELIVERY/OPERATIONAL PLAN

The recommendation in this report relates to the Delivery/Operational Plan Strategy "7.3 Plan for growth and development that balances liveability with valuing the local environment".

FINANCIAL IMPLICATIONS

Nil

POLICY AND GOVERNANCE IMPLICATIONS

Nil

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

RECOMMENDATION

That Council REFUSES development application DA 233/2025(1) for *Advertisement (digital freestanding billboard sign)* at Lot 95 DP 1180866, 33 Colliers Avenue, Orange for the following reasons:

1. **The proposed signage is located opposite a large multi-directional road sign, which requires drivers to make multiple decisions, increasing the risk of distraction.**
2. **The site is in proximity to a major intersection involving multiple direction changes and decision-making points, where additional visual stimuli may compromise road safety.**
3. **The curvature of the road to the left may result in driver distraction toward the right, increasing the potential for vehicles to drift into oncoming traffic.**
4. **The proposal is inconsistent with the objectives of Chapter 3 of the State Environmental Planning Policy (Industry and Employment) 2021, particularly in relation to road safety and the provision of public benefit in transport corridors.**

FURTHER CONSIDERATIONS

The recommendation of this report has been assessed against Council's key risk categories and the following comments are provided:

Service/Project Delivery	Nil
Financial	Decisions may lead to financial implications of legal appeals.
Reputation/Political	The outcome may attract public or political scrutiny, especially if perceived as inconsistent or contentious.
Environment	Nil
Compliance	The decision must align with planning legislation, regulation and controls and Council policies to avoid legal risk.
People & WHS	Development activities may introduce safety risks for workers, residents or the broader community.
Information Technology/Cyber Security	Systems used to assess and manage the application must ensure data integrity and secure handling of sensitive information

SUPPORTING INFORMATION

THE PROPOSAL

The development application seeks consent for the erection and display of a digital freestanding billboard sign at 33 Colliers Avenue, Orange, legally described as Lot 95 DP 1180866.

The proposed advertising sign will be located in the north-western corner of the property. It will be targeted towards northbound traffic along the Northern Distributor Road.

The proposed sign comprises an electronic display face measuring 18.26m², designed to be primarily visible to northbound traffic on the Northern Distributor Road. In addition to the digital display, a static business identification sign measuring 0.27m², branded '*Gawk*', is proposed on the skirting board adjacent to the left of the display face. The total advertising area of the sign will therefore be 18.53m².

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

The sign is to be mounted on a freestanding structure located within the front setback of the site, which is zoned E4 General Industrial under the Orange Local Environmental Plan 2011. The site is situated adjacent to a major arterial (state) road and near a key intersection, with high traffic volumes and complex directional signage.

The proposed sign will be illuminated. The operating system includes a brightness measurement device that automatically adjusts the screen's luminance to suit the external environment. The system also allows for remote adjustment of brightness settings.

The signage is intended for third-party advertising and business identification purposes. The application does not propose any landscaping, screening, or other mitigation measures.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

Figure 3 - proposed site plan

Figure 4 - proposed perspective view

SITE DESCRIPTION

The subject site at 33 Colliers Avenue, Orange, is zoned E4 General Industrial and is surrounded by industrial land and uses to the north, east, and south. The western boundary of the site fronts the Northern Distributor Road, a major arterial (state) road.

The site is currently occupied by a business associated with heavy construction transport services. A large warehouse is positioned in the north-eastern corner of the property, extending to a height of over 8m.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

The lot is generally rectangular in shape, with a small, angled portion aligning with the cul-de-sac of Colliers Avenue. The main frontage to Colliers Avenue measures 22.39m, and the total site area is approximately 6,022m². The boundary fronting the Northern Distributor Road, where the proposed advertising sign is to be located, measures 48.36m in length.

Vehicular access to the site is provided via a single driveway off Colliers Avenue. This driveway allows access to the entire property, as evidenced by the number of vehicles associated with the trucking business parked onsite. There is no street parking available in front of the property due to the cul-de-sac configuration. The site is enclosed by perimeter fencing and features a large gate opening onto Colliers Avenue.

Two existing business identification signs are present on the site - one facing south and the other west - mounted on the façade of the warehouse. These signs consist of wall-mounted text spelling out 'Turner Heavy Haulage'.

Figure 5 - existing street view from Colliers Avenue

Figure 6 - existing street view from Northern Distributor Road

SITE HISTORY

Development Consent DA 284/2013 was approved for the subject site on 15 October 2013 for the use of the land as a truck depot. As part of that approval, landscaping was required to be provided along the boundary fronting the Northern Distributor Road, as illustrated in Figure 7. A site inspection confirms that the required landscaping has not been installed or has not been maintained in accordance with the approved plans.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

The original DA was subject to a modification in May 2015. The amendment sought Council consent to modify the two-storey office/administration component to a single storey. No other changes were proposed.

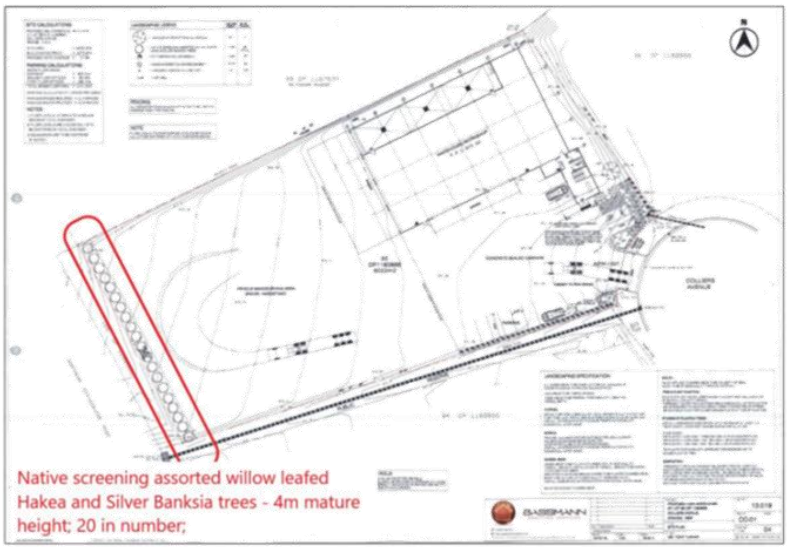

Figure 7 - approved plan under DA 284/2013

MATTERS FOR CONSIDERATION

Section 1.7 - Application of Part 7 of the *Biodiversity Conservation Act 2016* and Part 7A of the *Fisheries Management Act 1994*

Section 1.7 of the EP&A Act identifies that Part 7 of the Biodiversity Conservation Act 2016 (BC Act) and Part 7A of the Fisheries Management Act 1994 have effect in connection with terrestrial and aquatic environments.

There are four triggers known to insert a development into the Biodiversity Offset Scheme (ie the need for a BDAR to be submitted with a DA):

- Trigger 1: development occurs in land mapped on the Biodiversity Values Map (OEH) (clause 7.1 of BC Regulation 2017);
- Trigger 2: development involves clearing/disturbance of native vegetation above a certain area threshold (clauses 7.1 and 7.2 of BC Regulation 2017); or
- Trigger 3: development is otherwise likely to significantly affect threatened species (clauses 7.2 and 7.3 of BC Act 2016).

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

The fourth trigger (development proposed to occur in an Area of Outstanding Biodiversity Value (clause 7.2 of BC Act 2016) is generally not applicable to the Orange LGA; as no such areas are known to occur in the LGA. No further comments will be made against the fourth trigger.

Based on the foregoing consideration, a Biodiversity Assessment Report is not required, and the proposal suitably satisfies the relevant matters at Clause 1.7.

Section 4.15

Section 4.15 of the *Environmental Planning and Assessment Act 1979* requires Council to consider various matters, of which those pertaining to the application are listed below.

PROVISIONS OF ANY ENVIRONMENTAL PLANNING INSTRUMENT s4.15(1)(a)(i)

Orange Local Environmental Plan 2011

Part 1 - Preliminary

Clause 1.2 - Aims of Plan

The proposal is considered inconsistent with the aims of the Orange Local Environmental Plan 2011. In particular, the development does not satisfy the following relevant aims of the Plan:

(a) to encourage development which complements and enhances the unique character of Orange as a major regional centre boasting a diverse economy and offering an attractive regional lifestyle

(b) to provide for a range of development opportunities that contribute to the social, economic and environmental resources of Orange in a way that allows the needs of present and future generations to be met by implementing the principles of ecologically sustainable development

The proposed signage, by virtue of its location opposite a large multi-directional road sign and in proximity to a major intersection, introduces additional visual distraction for motorists and may compromise road safety. The signage therefore does not enhance the visual or functional character of the transport corridor and may detract from the safety and amenity of the locality. Accordingly, the proposal is inconsistent with the aims of the Plan, which seek to promote development that maintains safety, amenity, and orderly land use within the City of Orange.

Clause 1.6 - Consent Authority

This clause establishes that, subject to the Act, Council is the consent authority for applications made under the LEP.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

Clause 1.7 - Mapping

The subject site is identified on the LEP maps in the following manner:

Land Zoning Map:	**Land zoned E4 - General Industrial**
Lot Size Map:	**Minimum Lot Size 2000m²**
Heritage Map:	Not a heritage item or conservation area
Height of Buildings Map:	No building height limit
Floor Space Ratio Map:	No floor space limit
Terrestrial Biodiversity Map:	No biodiversity sensitivity on the site
Groundwater Vulnerability Map:	**Groundwater vulnerable**
Drinking Water Catchment Map:	Not within the drinking water catchment
Watercourse Map:	Not within or affecting a defined watercourse
Urban Release Area Map:	Not within an urban release area
Obstacle Limitation Surface Map:	No restriction on building siting or construction
Additional Permitted Uses Map:	No additional permitted use applies
Flood Planning Map:	Not within a flood planning area

Those matters that are of relevance are addressed in detail in the body of this report.

Clause 1.9A - Suspension of Covenants, Agreements and Instruments

This clause provides that covenants, agreements and other instruments which seek to restrict the carrying out of development do not apply with the following exceptions:

(a) to a covenant imposed by the Council or that the Council requires to be imposed, or

(b) to any relevant instrument under Section 13.4 of the Crown Land Management Act 2016, or

(c) to any conservation agreement under the National Parks and Wildlife Act 1974, or

(d) to any Trust agreement under the Nature Conservation Trust Act 2001, or

(e) to any property vegetation plan under the Native Vegetation Act 2003, or

(f) to any biobanking agreement under Part 7A of the Threatened Species Conservation Act 1995, or

(g) to any planning agreement under Subdivision 2 of Division 7.1 of the Environmental Planning and Assessment Act 1979.

Council staff are not aware of the title of the subject property being affected by any of the above.

Part 2 - Permitted or Prohibited Development

Clause 2.1 - Land Use Zones and Clause 2.3 - Zone Objectives and Land Use Table

The subject site is located within the E4 - General Industrial zone. The proposed development is defined as an ***advertising structure*** under OLEP 2011 and is seeking consent.

advertising structure *means a structure used or to be used principally for the display of an advertisement.*

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

Advertising structure is permitted with consent with recourse to the provisions of Orange LEP 2011 for land zoned E4 zone as well as under the requirements of *Chapter 3 Advertising and Signage* of the *State Environmental Planning Policy (Industry and Employment) 2021*.

Clause 2.3 of LEP 2011 references the Land Use Table and Objectives for each zone in LEP 2011. These objectives for land zoned E4 - General Industrial zone are as follows:

Objectives of zone E4 General Industrial

- *To provide a range of industrial, warehouse, logistics and related land uses.*
- *To ensure the efficient and viable use of land for industrial uses.*
- *To minimise any adverse effect of industry on other land uses.*
- *To encourage employment opportunities.*
- *To enable limited non-industrial land uses that provide facilities and services to meet the needs of businesses and workers.*
- *To ensure development along the Southern Link Road has an alternative access.*

The proposal is considered inconsistent with the objectives of the E4 General Industrial zone under the Orange Local Environmental Plan 2011. The intent of the zone is to provide land for industrial, warehouse, logistics, and related uses that support economic activity, while ensuring development occurs in a safe and efficient manner.

The proposed signage does not relate directly to an industrial or employment-generating activity on the site and does not contribute to the efficient or viable use of the land for industrial purposes. Instead, the placement of the signage adjacent to a major road and in proximity to an existing directional sign introduces potential safety concerns and visual clutter within a key transport corridor. This outcome is contrary to the objective of ensuring development does not adversely affect surrounding land uses or compromise the safe and efficient operation of transport networks.

Furthermore, the proposal provides no clear benefit or service to the industrial area, its businesses, or workers, and therefore does not align with the objective of enabling limited non-industrial uses that support industrial operations. On this basis, the development is considered inconsistent with the zone objectives and is not supported.

Part 3 - Exempt and Complying Development

The application is not exempt or complying development.

Part 4 - Principal Development Standards

The provisions under Part 4 of the Orange Local Environmental Plan 2011 relate primarily to building height, floor space ratio, and minimum lot size standards. These controls are not applicable to the proposed signage development. Accordingly, this part of the Plan does not apply to the assessment of the application.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

Part 5 - Miscellaneous Provisions

Part 5 of the Orange Local Environmental Plan 2011 includes provisions relating to heritage conservation, earthworks, and development on land identified as environmentally sensitive. The subject site is not identified as being affected by these provisions, and the proposed signage does not trigger any relevant clauses under this part. Accordingly, Part 5 is not applicable to the assessment of this application.

Part 6 - Urban Release Area

Not relevant to the application. The subject site is not located in an Urban Release Area.

Part 7 - Additional Local Provisions

7.1 - Earthworks

This clause establishes a range of matters that must be considered prior to granting development consent for any application involving earthworks, such as:

(a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality of the development

(b) the effect of the development on the likely future use or redevelopment of the land

(c) the quality of the fill or the soil to be excavated, or both

(d) the effect of the development on the existing and likely amenity of adjoining properties

(e) the source of any fill material and the destination of any excavated material

(f) the likelihood of disturbing relics

(g) the proximity to and potential for adverse impacts on any waterway, drinking water catchment or environmentally sensitive area

(h) any measures proposed to minimise or mitigate the impacts referred to in Paragraph (g).

The earthworks proposed in the application are limited to the extent of cutting and filling required for the proposed structure. The extent of disruption to the drainage of the site is minor and will not detrimentally affect adjoining properties or receiving waterways.

The extent of the earthworks will not materially affect the potential future use or redevelopment of the site that may occur at the end of the proposed development's lifespan.

The site is not known to be contaminated, and conditions may be imposed requiring the use of verified clean fill only. Excavated materials will be reused onsite as far as possible and conditions may be imposed to require that surplus materials will be disposed of to an appropriate destination.

The earthworks will be appropriately supported onsite and the change in ground level is not substantial. Therefore, the effect on the amenity of adjoining properties is considered to be minor.

The site is not known to contain any Aboriginal, European or Archaeological relics. Previous known uses of the site do not suggest that any relics are likely to be uncovered. However, conditions may be imposed to ensure that should site works uncover a potential relic or artefact, works will be halted to enable proper investigation by relevant authorities and the proponent required to seek relevant permits to either destroy or relocate the findings.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

The site is not in proximity to any waterway, drinking water catchment or sensitive area. Conditions may be imposed to require a sediment control plan, including silt traps and other protective measures, to ensure that loose dirt and sediment does not escape the site boundaries.

7.6 - Groundwater Vulnerability

This clause seeks to protect hydrological functions of groundwater systems and protect resources from both depletion and contamination. Orange has a high water table and large areas of the LGA, including the subject site, are identified with "Groundwater Vulnerability" on the Groundwater Vulnerability Map. This requires that Council consider:

(a) whether or not the development (including any onsite storage or disposal of solid or liquid waste and chemicals) is likely to cause any groundwater contamination or have any adverse effect on groundwater dependent ecosystems, and

(b) the cumulative impact (including the impact on nearby groundwater extraction for potable water supply or stock water supply) of the development and any other existing development on groundwater.

Furthermore, consent may not be granted unless Council is satisfied that:

(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or

(b) if that impact cannot be reasonably avoided - the development is designed, sited and will be managed to minimise that impact,

(c) if that impact cannot be minimised - the development will be managed to mitigate that impact.

The proposal is not anticipated to involve the discharge of toxic or noxious substances and is therefore unlikely to contaminate the groundwater or related ecosystems. The proposal does not involve extraction of groundwater and will therefore not contribute to groundwater depletion. The design and siting of the proposal avoid impacts on groundwater and is therefore considered acceptable.

Clause 7.11 - Essential Services

Clause 7.11 applies and states:

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the proposed development are available or that adequate arrangements have been made to make them available when required:

(a) the supply of water,

(b) the supply of electricity,

(c) the disposal and management of sewage,

(d) storm water drainage or onsite conservation,

(e) suitable road access.

In consideration of this clause, all utility services are available to the land and adequate for the proposal.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

STATE ENVIRONMENTAL PLANNING POLICIES

The following SEPPs applicable to the proposed development:

- *State Environmental Planning Policy (Industry and Employment) 2021*

STATE ENVIRONMENTAL PLANNING POLICY (INDUSTRY AND EMPLOYMENT) 2021

Chapter 3 - Advertising and Signage

3.1 Aims, Objectives etc

(1) This Chapter aims:

(a) to ensure that signage (including advertising):

(i) is compatible with the desired amenity and visual character of an area, and

(ii) provides effective communication in suitable locations, and

(iii) is of high quality design and finish, and

(b) to regulate signage (but not content) under Part 4 of the Act, and

(c) to provide time-limited consents for the display of certain advertisements, and

(d) to regulate the display of advertisements in transport corridors, and

(e) to ensure that public benefits may be derived from advertising in and adjacent to transport corridors.

(2) This Chapter does not regulate the content of signage and does not require consent for a change in the content of signage.

The proposal is not considered to be consistent with the aims and objectives of Chapter 3 of the SEPP (Industry and Employment) 2021. The intent of this Chapter is to ensure signage is compatible with the desired amenity and visual character of the area, provides effective communication in suitable locations, and is of high-quality design and finish.

The proposed signage is located opposite a large multi-directional road sign and in close proximity (approximately 290m) to a major intersection on the Northern Distributor Road. The location and orientation of the signage introduce additional visual elements into a high-traffic environment where drivers are required to make multiple decisions. This creates a potential distraction and is inconsistent with the objective of ensuring signage is placed in suitable and safe locations. The signage does not enhance the visual character of the area, which is intended to remain free of unnecessary visual clutter along key transport corridors.

The proposal is therefore considered inconsistent with the aims of the Chapter, particularly Clause 3.1(1)(a)(i) and (ii) relating to compatibility with amenity and safety within transport corridors.

3.6 Granting of Consent to Signage

A consent authority must not grant development consent to an application to display signage unless the consent authority is satisfied:

(a) that the signage is consistent with the objectives of this Chapter as set out in Section 3.1(1)(a), and

(b) that the signage the subject of the application satisfies the assessment criteria specified in Schedule 5.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

In accordance with Clause 3.6, Council must be satisfied that the proposed signage is consistent with the objectives of the Chapter and meets the assessment criteria under Schedule 5. Based on the assessment, the proposal does not satisfy these requirements. The signage is not appropriately located, is likely to contribute to driver distraction, and does not demonstrate compatibility with the visual character of the surrounding area or with road safety objectives.

Given the identified safety concerns and inconsistency with the aims of the Chapter, the proposal fails to meet the criteria under Clause 3.6(a) and therefore cannot be supported.

Schedule 5 Assessment Criteria

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?*

The proposed signage is not considered compatible with the existing or desired future character of the area. The site is located within an established industrial precinct adjacent to the Northern Distributor Road, which is characterised by functional industrial buildings and limited advertising.

The proposal does not align with a defined theme for outdoor advertising in the locality and would introduce additional visual elements inconsistent with the area's intended industrial and low-clutter character.

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?*

The subject site is not within or directly adjoining an environmentally sensitive area, heritage area, or open space. However, the signage's proximity to the major arterial road means it influences the visual quality of an important transport corridor. The proposal detracts from the visual amenity of the road corridor through increased visual clutter and driver distraction.

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?*

The proposal does not obscure or compromise any significant public views or vistas. However, the signage's scale and siting result in a visually dominant structure when viewed from the Northern Distributor Road. It visually competes with existing directional road signage and interrupts the openness of the transport corridor.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

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?*

The scale, proportion, and form of the proposed signage are not appropriate for its setting. The signage does not contribute positively to the streetscape or visual character of the transport corridor and adds to visual clutter.

The sign sits 150cm below the overall height of the building, with a total height above ground level of 6.65m.

The structure protrudes prominently above the proposed landscaping onsite. The proposal would require ongoing vegetation management within the road reserve to maintain visibility from the roadway. Council ought not be restricted from suitably landscaping the road verge to improve the visual amenity of the industrial precinct when viewed from the state road. Any such landscaping would likely impede views to the sign.

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?*

The proposed signage is not well integrated with the existing built form on the site. It does not complement the scale, proportion, or character of the existing industrial building and presents as a standalone advertising structure rather than a coordinated element of the site's design. The signage is intended to display content that may not directly relate to the operations of the site, with approximately 75% of advertisements allocated to local businesses and 15% to government advertising. As such, the proposal lacks a clear relationship to the site use and does not demonstrate strong contextual or functional integration with the premises.

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?*

The application proposes to use LED technology to display advertisements, allowing for remote operation and content management of the signage. A permanent logo identifying the advertising installation company is proposed to be fixed below the display face. While the integration of technology enables flexible content display, the supporting elements and company logo add to the visual prominence of the structure and do not contribute to a cohesive or contextually appropriate design outcome.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

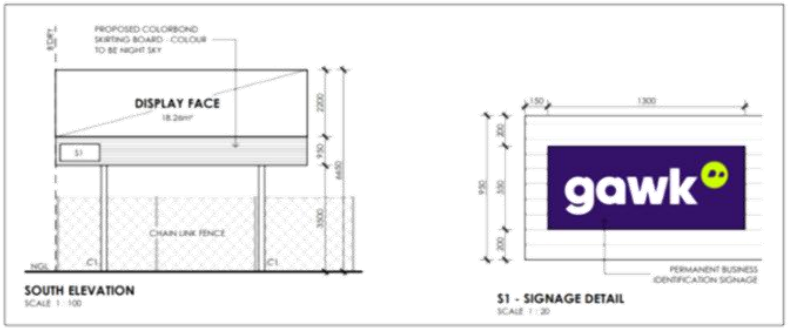

Figure 8 - signage elevation

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?*

The proposed signage will be illuminated using LED technology with an automatic brightness adjustment system that responds to external light conditions. The illumination can be remotely controlled, allowing for adjustments in intensity when required.

The signage is proposed to operate between 4:00am and 11:59pm (20 hours per day). The hours of illumination in a location adjoining a major arterial road may result in additional visual stimuli for motorists. While the technology reduces the likelihood of glare, the illuminated display is likely to still create potential distraction for drivers, particularly during low-light periods or in adverse weather conditions. The site is not located near residential development, so direct amenity impacts from light spill are unlikely.

While the illumination system demonstrates some safeguards against glare, the display still raises concerns regarding potential road safety impacts. The proposal is therefore only partially consistent with the illumination criteria under Schedule 5.

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?*

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

The proposal is likely to reduce the safety of motorists using the Northern Distributor Road. The signage is positioned opposite an existing multi-directional road sign and in close proximity (approximately 290m) to a major intersection where drivers are required to make multiple decisions. The introduction of additional visual stimuli increases the potential for driver distraction and may lead to unsafe vehicle movements. Accordingly, the proposal is considered inconsistent with the safety objectives of the SEPP and is not supported.

The proposal does not satisfy several key criteria under Schedule 5 of the SEPP (Industry and Employment) 2021. The signage is not compatible with the character of the area, adds visual clutter to a major transport corridor, and presents potential road safety risks.

3.16 Advertisements greater than 20 square metres and within 250 metres of, and visible from, a classified road

Council sought concurrence from TfNSW to assist in its assessment under State Environmental Planning Policy (Industry & Employment) 2021, Section 3.16. However, given the area of the advertisement sign is 18.26m² and the maximum height of the signage is 6.650m, which is under the threshold of 20m², the clause is not applicable. The TfNSW comments received were as follows:

TfNSW comments

TfNSW's primary interests are in the road network, traffic, and broader transport issues. In particular, the efficiency and safety of the classified road network, the security of property assets and the integration of land use and transport.

TfNSW provides the following comments for Council's consideration below:

Based off the information provided, TfNSW notes the proposed sign is less than 20m2 in area and less than 8m high. Therefore, the sign does not require formal concurrence from TfNSW under clause 3.16 of SEPP (Industry and Employment) 2021.

TfNSW also notes that whilst the sign is visible from the NDR, it is not within the classified road reserve and as such does not require TfNSW concurrence under Section 138 of the Roads Act, 1993.

Accordingly, the environmental impacts of the proposed signage should be appropriately considered by Council during its assessment. TfNSW advises that Council should consider the sign against the provision of SEPP (Industry and Employment), 2021 and the supporting guidelines titled Transport Corridor Outdoor Advertising and Signage Guidelines.

Council should also be satisfied that the signage achieves compliance with Chapter 3 of the Guidelines, including Section 3.2.3 of the Guidelines - Proximity to decision making points and conflict points.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

TRANSPORT CORRIDOR OUTDOOR ADVERTISING AND SIGNAGE GUIDELINES (Nov 2017)

3.2.3 Proximity to decision making points and conflict points

To minimise distraction near decision making points and conflict points, and ensure there is sufficient distance for a driver to recognise, react and, if required, stop safely before reaching one of these points, the following criteria apply to all advertising signage:

a. *The sign should not be located:*
   i. *less than the safe sight distance from an intersection, merge point, 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 iii.*
   iii. *so that it is visible from the stem of a T-intersection.*

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 6-9m) or higher.*

In consideration of the above clause, the proposed signage is located in close proximity to a major intersection on the Northern Distributor Road, where multiple decision-making points occur, including turning movements and lane changes. The sign would also be visible to motorists approaching a curve in the road, which limits forward visibility and requires increased driver attention.

Given the sign's placement within the driver's line of sight to existing directional signage and its location near a conflict point, the proposal does not satisfy the intent of Section 3.2.3 of the *Transport Corridor Outdoor Advertising and Signage Guidelines*. The location presents a potential safety risk by introducing an additional visual stimulus in an area where motorists are required to make critical navigation decisions.

PROVISIONS OF ANY DRAFT ENVIRONMENTAL PLANNING INSTRUMENT THAT HAS BEEN PLACED ON EXHIBITION 4.15(1)(a)(ii)

There are no draft Environmental Planning Instruments currently on exhibition that relate to the subject land or proposed development.

DESIGNATED DEVELOPMENT

The proposed development is not designated development.

INTEGRATED DEVELOPMENT

The proposed development is not integrated development.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

PROVISIONS OF ANY DEVELOPMENT CONTROL PLAN s4.15(1)(a)(iii)

Orange Development Control Plan 2004

Orange Development Control Plan 2004 ("the DCP") applies to the subject land (Part 10, 14). An assessment of the proposed development against the relevant Planning Outcomes of Part 10 and 14 are considered below.

Part 10. SPECIAL USES AND ROADS ZONES

10.3 Development along Major Transport Routes

Visual Impact - Urban Areas

In the Orange DCP, it is stated that main roads in the Orange urban area predominantly pass through residential areas and distinct business and industrial areas as they lead to and from the City Centre. Planned distributor roads also traverse residential and industrial areas to provide for improved local-traffic opportunities.

Signage that may be visible from a distributor must not be animated and should be designed to minimise potential distraction to motorists. It is preferable to have signage designed for "glance recognition" only - i.e. one bold logo and limited text, such as the name of the business, in a large font size is strongly preferred over complex messages with substantial text that are likely to require prolonged attention to recognise and interpret.

	PO 10.3-1 PLANNING OUTCOMES – DEVELOPMENT NEAR MAJOR ROADS
1	Development on land fronting and visible from a major road or distributor road provides for quality design on the highway and/or distributor road through landscaping, building setbacks façade design, external colours and materials and siting.
2	Residential buildings address potential noise impacts in design from adjacent main roads.
3	Direct access to major roads is limited and is constructed to the requirements of the relevant roads authority.
4	Residential lots are set back from planned distributor roads to provide a reasonable separation between future roads and residential land.
5	Where direct access to a main or arterial road is denied by the Roads Authority and comprises residential subdivision, any rear or side fences are set back and screened with dense landscaping.
6	Commercial buildings adjoining a distributor road are setback from the property boundary by at least 10m.
7	Lighting and signage visible from a distributor road is not animated and is designed so as not to distract motorists beyond glance recognition.

In relation to the Point 1 of the planning outcomes, the proposed advertising structure is located along the rear boundary of the subject site at 33 Colliers Avenue, Orange, directly adjoining and highly visible from the Northern Distributor Road, a major transport corridor. The signage will utilise LED technology, resulting in a bright, visually prominent display oriented toward westbound motorists.

It is noted that the previous development consent (DA 284/2013) for the site required the establishment and maintenance of a landscaping strip along the rear boundary to enhance visual amenity and screen industrial development from the Northern Distributor Road. This landscaping has not been provided or maintained as required, and the proposed signage further detracts from the intended visual outcome for the site. The current application proposes to incorporate landscaping as part of this development, with Hakea and Silver Banksia species to be planted along the rear boundary. These trees are expected to reach approximately 4m in height at maturity,

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

providing partial visual screening of the proposed structure and an improvement to the site's presentation to the road corridor over time.

While the proposed landscaping represents a positive response to the previous consent requirements and will assist in mitigating some of the visual impact, the scale, illumination, and prominence of the LED signage will continue to dominate the view from the Northern Distributor Road, particularly prior to vegetation maturity.

Accordingly, the proposal only partially satisfies the planning outcome, as it does not fully achieve the intended standard of visual quality and integration expected for development visible from major road corridors.

In relation to Point 7, the proposed signage will utilise LED technology capable of displaying changing digital content. While the applicant indicates the display will not include animation or moving images, the illuminated and changeable nature of the screen will attract a high level of visual attention from motorists travelling along the Northern Distributor Road, particularly given its orientation toward westbound traffic near a major intersection.

The proposed operating hours (4:00am to 11:59pm) extend across peak traffic periods and low-light conditions, further increasing the potential for driver distraction. Although the system includes automatic brightness adjustment to respond to ambient lighting, the proposal remains inconsistent with the planning outcome, as the design and level of illumination are likely to draw attention beyond safe glance recognition.

Accordingly, the development does not satisfy the planning outcome as it is considered likely to distract motorists and impact the safety and visual amenity of the distributor road corridor.

In relation to the above planning outcomes, Points 2, 3, 4, 5 and 6 are not relevant to this development application.

Part 14. ADVERTISING

14.1 Objectives for Advertisements

The proposal is not considered consistent with the objectives for advertisements under Section 14.1. The intent of these provisions is to ensure signage complements the character of public places and relates appropriately to the land or building on which it is displayed. The proposed LED advertising structure is designed primarily to attract the attention of passing motorists on the Northern Distributor Road and does not directly relate to the activities or identity of the site. The scale, illumination, and prominence of the signage are not compatible with the surrounding built and landscape character and therefore do not achieve the desired visual harmony intended by the LEP and associated controls.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

14.2 Consent for Advertisements

PO 14.2-1 PLANNING OUTCOMES – ADVERTISEMENTS	
1	The location, size, colour and design of advertisement complement the character of the locality.
2	Advertisements on buildings fit within the envelope of the building.
3	Free-standing pole or pylon signs relate to the height of associated buildings in business and industrial areas.
4	Free-standing signs in residential areas are at a personal scale (ie, about 2-metres high or less) within a landscaped setting.

In consideration of the above planning outcomes, the following assessment has been undertaken.

The proposed signage is not considered appropriate in its location or design. It is positioned along the rear boundary of the site, directly opposite a large multi-directional road sign on the Northern Distributor Road, resulting in visual competition and potential distraction for motorists. The surrounding area is predominantly industrial in character, where existing signage generally relates to onsite business identification rather than third-party advertising (refer to Figure 9).

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

The proposed LED display, which features changeable digital content with a 25-second dwell time, does not reflect the established signage pattern within the locality and introduces a visually dominant and dynamic element uncharacteristic of the area.

Figure 9 - existing signages in the nearby surrounding

The proposed sign has a total height of 6.65m, with a display face measuring 2.2m in height and a total display area of 18.26m². The overall height of the structure does not exceed the height of existing industrial buildings in the vicinity and is generally consistent with the built form character of the surrounding area. Accordingly, the proposal is considered to satisfy planning outcome Point 3 in terms of scale and height relationship to nearby development.

Accordingly, the proposal does not complement the existing industrial or transport corridor character and is partially inconsistent with PO 14.2 of the Orange Development Control Plan 2004.

14.3 Advertisements for High-Profile Areas

PO 14.3-1 PLANNING OUTCOMES – HIGH-PROFILE AREAS	
1	Business-identification Signs complement the character of the locality.
2	Public-information Signs incorporate a small proportion of associated commercial advertising (ie, 10%) for event sponsors.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

The proposed signage does not function as a business identification sign related to the onsite use. Instead, it primarily serves as an advertising structure for third-party content. While the proposal includes a proportion of government and local business advertising, the extent of commercial advertising (approximately 75%) exceeds what would typically be supported under this provision. As such, the proposed signage does not align with the intent of planning outcomes, which seeks to ensure signage in high-profile locations complements the locality and limits commercial advertising to a minor component.

PROVISIONS PRESCRIBED BY THE REGULATIONS s4.15(1)(a)(iv)

Demolition of a Building (clause 61)

The proposal does not involve the demolition of a building.

Fire Safety Considerations (clause 62)

The proposal does not involve a change of building use for an existing building.

Buildings to be Upgraded (clause 64)

The proposal does not involve the rebuilding, alteration, enlargement or extension of an existing building.

BASIX Commitments (clause 75)

BASIX is not applicable to the proposed development.

THE LIKELY IMPACTS OF THE DEVELOPMENT s4.15(1)(b)

Traffic Impacts

A Traffic Impact Assessment was submitted in support of the proposed development. The application including the traffic impact assessment was internally referred to the Council's Assistant Development Engineer for comments, and the following comments were received.

The proposed advertising sign is not supported by Technical Services for the following traffic safety reasons:

- *The sign is located opposite a large multi-directional road sign requiring drivers to make multiple decisions.*
- *The sign is located close to a major intersection with multiple direction changes / decision making points.*
- *The road curves to left and the sign has the potential to distract drivers' attention to the right resulting in the driver's vehicle drifting into oncoming traffic.*

The comments have been carefully considered throughout the assessment of the application in this report. For the reasons expressed above and assessed elsewhere in the body of this report the development is likely to have an adverse impact on the safe operation of the Northern Distributor Road.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

Visual Impacts

The proposed signage, due to its size, location, illumination and digital format, will have a notable visual presence when viewed from the Northern Distributor Road. While the proposed structure incorporates LED technology with automatic brightness adjustment, its placement and nature as a third-party advertising sign are likely to detract from the established industrial character and visual amenity of the locality.

The signage is expected to contribute to visual clutter in an area where existing signs are limited to business identification only. Its illumination and operation over extended hours (4:00am to 11:59pm) may also affect the visual environment of the surrounding area, particularly for motorists travelling westbound.

While landscaping is proposed along the rear boundary, including Hakea and Silver Banksia species, this will provide only partial visual softening of the structure due to its height and prominence. The proposal raises direct amenity, and traffic issues, it is inconsistent with the desired visual and character outcomes for development fronting major roads.

Overall, the likely impacts of the proposed development are adverse in terms of visual character, amenity, and compatibility with surrounding development, and therefore the proposal is considered unsatisfactory under Section 4.15(1)(b) of the Environmental Planning and Assessment Act 1979.

THE SUITABILITY OF THE SITE s4.15(1)(c)

The subject site is zoned *E4 General Industrial*, which permits a range of industrial and related uses. While *'advertising structure'* is not ordinarily a permitted land use in the E4 zone, the proposal is permissible under the *chapter 3 Advertising and signage* of the *State Environmental Planning Policy (Industry and Employment) 2021*.

However, signage with the proposed nature, scale, and location of the proposed advertising structure are not considered suitable for this particular site.

The signage is positioned along the rear boundary, oriented directly towards the Northern Distributor Road, where its visibility and illuminated display will dominate the view corridor and detract from the established industrial character of the locality. The proposal is inconsistent with the intent of the zone, which seeks to support industrial land uses while minimising adverse visual and amenity impacts on surrounding areas.

Although the site provides adequate physical space for installation and access, its prominent exposure to a major arterial road and proximity to other signage make it unsuitable for large-format third-party advertising. The landscaping proposed will not sufficiently mitigate the visual prominence of the structure.

Accordingly, the site is not considered suitable for the scale and type of signage proposed.

ANY SUBMISSIONS MADE IN ACCORDANCE WITH THE ACT s4.15(1)(d)

The proposed development is not defined as advertised development under the provisions of the Community Participation Plan, and as such no formal exhibition of the application was required. No submissions have been received in relation to this application.

2.3 Development Application DA 233/2025(1) - 33 Colliers Avenue

PUBLIC INTEREST s4.15(1)(e)

The proposal will be inconsistent with any policy statement, planning study or guideline that has not been considered in this assessment. There are aspects of the proposal that will be contrary to the welfare or well-being of the general public.

SUMMARY

The proposed development is permissible with the consent of Council. However, a Section 4.15 assessment indicates that the signage is inconsistent with key objectives of the Orange LEP 2011, DCP 2004, and SEPP (Industry and Employment) 2021, including visual amenity, road safety, and compatibility with the locality. Accordingly, the development is not supported.

COMMENTS

The requirements and advice provided by the Engineering Development Section have been considered in the assessment of the application. However, due to the identified inconsistencies with planning controls, visual amenity, and road safety concerns, the application is recommended for refusal.

ATTACHMENTS

1 Draft Notice of Refusal, D25/128846
2 Plans, D25/128971

ORANGE CITY COUNCIL

NOTICE OF DETERMINATION OF A DEVELOPMENT APPLICATION

Application number	DA 233/2025(1) PAN-545099
Applicant	Aimee Trew 3/281 Brunswick Street, Fitzroy VIC 3065
Description of development	Development of a freestanding, digital, billboard sign.
Property	33 COLLIERS AVENUE ORANGE 2800 95/-/DP1180866
Determination	Refused Consent Authority - Council
Date of determination	4/11/25

Under section 4.18(1)(a) of the EP&A Act, notice is given that the above development application has been determined by refusing consent using the power in section 4.16(1)(b) of the EP&A Act, for the reasons specified below:

Reason for Refusal

1. The proposed signage is located opposite a large multi-directional road sign and in proximity to a major intersection involving multiple traffic movements and decision-making points. Combined with the curvature of the Northern Distributor Road, the proposal increases the potential for driver distraction and compromises road safety by diverting attention from important directional signage.

2. The proposal is inconsistent with the objectives of **Chapter 3 of the State Environmental Planning Policy (Industry and Employment) 2021**, particularly those relating to maintaining road safety and ensuring that signage provides an appropriate public benefit in transport corridors.
3. The proposal is inconsistent with the **aims and objectives of the Orange Local Environmental Plan 2011** and the **relevant provisions of Orange Development Control Plan 2004**, as the signage does not complement the character of the locality, introduces visual clutter within an industrial setting, and fails to achieve the desired visual and landscape outcomes for development visible from a major road.

Right of appeal / review of determination

If you are dissatisfied with this determination:

Request a review

You may request a review of the consent authority's decision under section 8.3(1) of the EP&A Act. The application must be made to the consent authority within 6 months from the date that you received the original determination notice provided that an appeal under section 8.7 of the EP&A Act has not been disposed of by the Court.

Rights to appeal

You have a right under section 8.7 of the EP&A Act to appeal to the Court within 6 months after the date on which the determination appealed against is notified or registered on the NSW planning portal.

The Dictionary at the end of this consent defines words and expressions for the purposes of this determination.

Paul Johnston
Manager Development Assessments
Person on behalf of the consent authority

For further information, please contact Dhawala Ananda / Senior Planner

Dictionary

The following terms have the following meanings for the purpose of this determination (except where the context clearly indicates otherwise):

Approved plans and documents means the plans and documents endorsed by the consent authority, a copy of which is included in this notice of determination.

AS means Australian Standard published by Standards Australia International Limited and means the current standard which applies at the time the consent is issued.

Certifier means a council or a person that is registered to carry out certification work under the *Building and Development Certifiers Act 2018*.

Construction certificate means a certificate to the effect that building work completed in accordance with specified plans and specifications or standards will comply with the requirements of the EP&A Regulation and *Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021*.

Council means .

Court means the Land and Environment Court of NSW.

EPA means the NSW Environment Protection Authority.

EP&A Act means the *Environmental Planning and Assessment Act 1979*.

EP&A Regulation means the *Environmental Planning and Assessment Regulation 2021*.

Independent Planning Commission means Independent Planning Commission of New South Wales constituted by section 2.7 of the EP&A Act.

Occupation certificate means a certificate that authorises the occupation and use of a new building or a change of building use for an existing building in accordance with this consent.

Principal certifier means the certifier appointed as the principal certifier for building work or subdivision work under section 6.6(1) or 6.12(1) of the EP&A Act respectively.

Site work means any work that is physically carried out on the land to which the development the subject of this development consent is to be carried out, including but not limited to building work, subdivision work, demolition work, clearing of vegetation or remediation work.

Stormwater drainage system means all works and facilities relating to:

- the collection of stormwater,
- the reuse of stormwater,
- the detention of stormwater,
- the controlled release of stormwater, and
- connections to easements and public stormwater systems.

Strata certificate means a certificate in the approved form issued under Part 4 of the *Strata Schemes Development Act 2015* that authorises the registration of a strata plan, strata plan of subdivision or notice of conversion.

Sydney district or regional planning panel means Western Regional Planning Panel.

ORANGE - ADVERTISING SIGN: CONSTRUCTION OF DIGITAL FREESTANDING SIGN

33 COLLIERS AVENUE,
ORANGE, NSW 2800

TOWN PLANNING DRAWINGS

A01 COVER PAGE
A02 SITE PLAN
A03 FLOOR PLAN & ELEVATIONS
A04 PERSPECTIVE VIEWS

PHOTO 01

PHOTO 02

PHOTO 03

PHOTO 04

KEY PLAN
SCALE 1 : 3000

PHOTO LEGEND	
NO.	DESCRIPTION
01	PHOTOGRAPHIC VIEW OF THE PROPOSED LOCATION FOR THE SIGN.
02	PHOTOGRAPHIC VIEW NORTH FROM PROPOSED LOCATION FOR THE SIGN.
03	PHOTOGRAPHIC VIEW WEST FROM PROPOSED LOCATION FOR THE SIGN.
04	PHOTOGRAPHIC VIEW EAST PROPOSED LOCATION FOR THE SIGN.

ISSUE/AMMENDMENTS SCHEDULE

01 08/10/2025
TOWN PLANNING ISSUE

TOWN PLANNING
NOT FOR CONSTRUCTION

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PROJECT
ORANGE - ADVERTISING SIGN: CONSTRUCTION OF DIGITAL FREESTANDING SIGN

ADDRESS
33 COLLIERS AVENUE,
ORANGE, NSW 2800

NORTH POINT

DATE 08/10/2025
DRAWING NO. A01
DRAWN BY AP
PROJECT NO. 24-007
PAGE SIZE A3
ISSUE NO. 01

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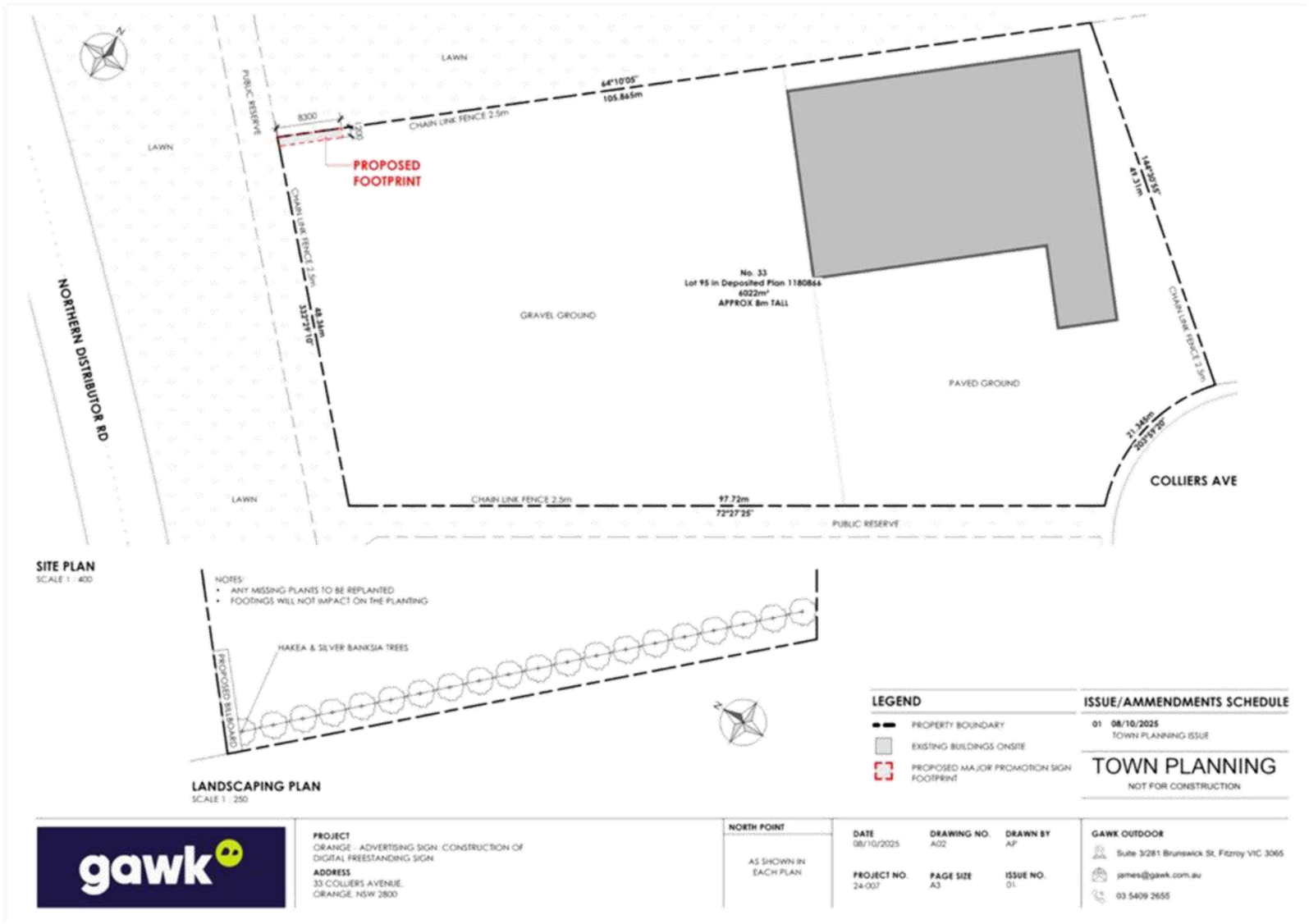
Suite 3/281 Brunswick St, Fitzroy VIC 3065
james@gawk.com.au
03 5409 2656


LAWN
PUBLIC RESERVE
8300
CHAIN LINK FENCE 2.5m
64°10'05"
105.845m
PROPOSED FOOTPRINT
LAWN
CHAIN LINK FENCE 2.5m
49.24m
332°29'10"
NORTHERN DISTRIBUTOR RD
No. 33
Lot 95 in Deposited Plan 1180866
6022m²
APPROX 8m TALL
GRAVEL GROUND
PAVED GROUND
144°30'55"
47.31m
CHAIN LINK FENCE 2.5m
21.34m
262°59'20"
COLLIERS AVE
LAWN
CHAIN LINK FENCE 2.5m
97.72m
72°27'25"
PUBLIC RESERVE
SITE PLAN
SCALE 1 : 400
NOTES:
• ANY MISSING PLANTS TO BE REPLANTED
• FOOTINGS WILL NOT IMPACT ON THE PLANTING
HAKEA & SILVER BANKSIA TREES
PROPOSED BILLBOARD
LANDSCAPING PLAN
SCALE 1 : 250
LEGEND
PROPERTY BOUNDARY
EXISTING BUILDINGS ONSITE
PROPOSED MAJOR PROMOTION SIGN FOOTPRINT
ISSUE/AMMENDMENTS SCHEDULE
01 08/10/2025
TOWN PLANNING ISSUE
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PROJECT
ORANGE - ADVERTISING SIGN: CONSTRUCTION OF DIGITAL FREESTANDING SIGN
ADDRESS
33 COLLIERS AVENUE,
ORANGE, NSW 2800
NORTH POINT
AS SHOWN IN EACH PLAN
DATE
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A02
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AP
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24-007
PAGE SIZE
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ISSUE NO.
01
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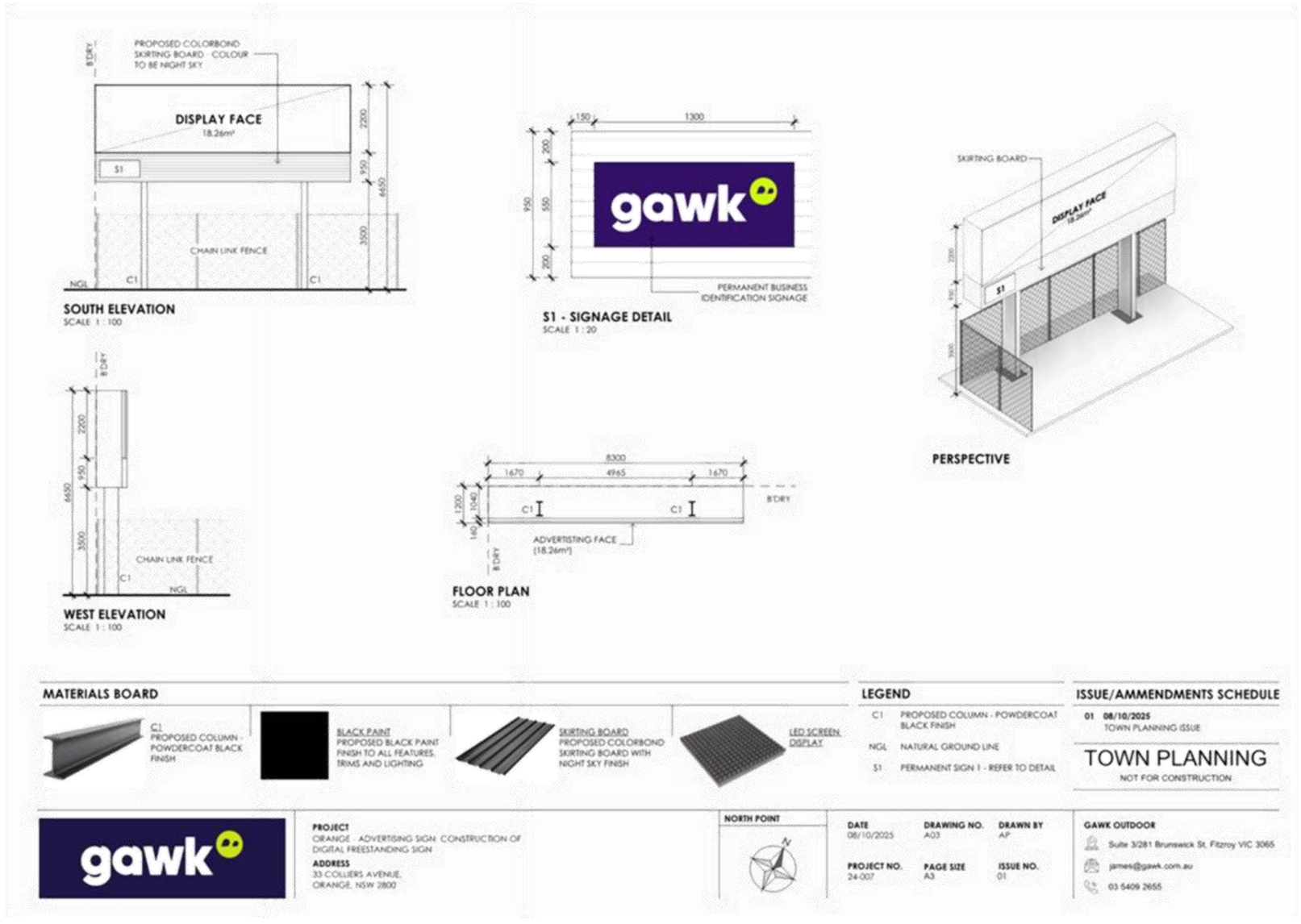
Suite 3/281 Brunswick St, Fitzroy VIC 3065
james@gawk.com.au
03 5409 2655


PROPOSED COLORBOND SKIRTING BOARD COLOUR TO BE NIGHT SKY
8 DRY
DISPLAY FACE
18.26m²
S1
2200
950
6450
3500
CHAIN LINK FENCE
NGL
C1
C1
SOUTH ELEVATION
SCALE 1 : 100
150
1300
200
950
550
200
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PERMANENT BUSINESS IDENTIFICATION SIGNAGE
S1 - SIGNAGE DETAIL
SCALE 1 : 20
SKIRTING BOARD
DISPLAY FACE
18.26m²
S1
PERSPECTIVE
8300
1670
4965
1670
1200
1040
140
8 DRY
C1
C1
ADVERTISTING FACE
(18.26m²)
FLOOR PLAN
SCALE 1 : 100
6450
950
3500
CHAIN LINK FENCE
C1
NGL
WEST ELEVATION
SCALE 1 : 100
MATERIALS BOARD
C1
PROPOSED COLUMN - POWDERCOAT BLACK FINISH
BLACK PAINT
PROPOSED BLACK PAINT FINISH TO ALL FEATURES, TRIMS AND LIGHTING
SKIRTING BOARD
PROPOSED COLORBOND SKIRTING BOARD WITH NIGHT SKY FINISH
LED SCREEN DISPLAY
LEGEND
C1 PROPOSED COLUMN - POWDERCOAT BLACK FINISH
NGL NATURAL GROUND LINE
S1 PERMANENT SIGN 1 - REFER TO DETAIL
ISSUE/AMMENDMENTS SCHEDULE
01 08/10/2025
TOWN PLANNING ISSUE
TOWN PLANNING
NOT FOR CONSTRUCTION
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PROJECT
ORANGE - ADVERTISING SIGN CONSTRUCTION OF DIGITAL FREESTANDING SIGN
ADDRESS
33 COLLIERS AVENUE,
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james@gawk.com.au
03 5409 2655

EXISTING PERSPECTIVE VIEW #01 - WESTBOUND TRAFFIC

PERSPECTIVE VIEW REFERENCE
SCALE 1 : 3000

PROPOSED PERSPECTIVE VIEW #01 - WESTBOUND TRAFFIC

GENERAL NOTES

PROPOSED PERSPECTIVE VIEW IS AN ARTISTS IMPRESSION OF THE PROPOSAL ONLY. SIZE AND SCALE ARE REFERENCED ON THE FLOOR PLANS AND ELEVATIONS.

ALL DRAWINGS TO BE READ IN CONJUNCTION WITH THE SUPPLIED TOWN PLANNING REPORT.

REFER TO THE TOWN PLANNING REPORT FOR THE WRITTEN STATEMENT REGARDING THE METHODOLOGY DURING THE PREPARATION OF PERSPECTIVE VIEWS.

LEGEND

#00 PERSPECTIVE VIEW - LOCATION IN WHICH PHOTOGRAPHIC VIEWS WERE TAKEN

ISSUE/AMMENDMENTS SCHEDULE

01 08/10/2025
TOWN PLANNING ISSUE

TOWN PLANNING
NOT FOR CONSTRUCTION

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PROJECT
ORANGE - ADVERTISING SIGN: CONSTRUCTION OF DIGITAL FREESTANDING SIGN

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DATE	DRAWING NO.	DRAWN BY
08/10/2025	A04	AP
PROJECT NO.	**PAGE SIZE**	**ISSUE NO.**
24-007	A3	

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Suite 3/281 Brunswick St, Fitzroy VIC 3065
james@gawk.com.au
03 5409 2655

2.2 Minutes of the Electronic Extraordinary Local Transport Forum meeting held on 17 November 2025

RECORD NUMBER: 2025/2508
AUTHOR: Scott Maunder, Acting Director Technical Services

EXECUTIVE SUMMARY

The Local Transport Forum held an electronic extraordinary meeting on 17 November 2025 to again consider the matter referred from Council in relation to a development application for a Digital Freestanding Billboard Sign at 33 Colliers Avenue.

This meeting is presented to the Infrastructure Policy Committee for information.

LINK TO DELIVERY/OPERATIONAL PLAN

The recommendation in this report relates to the Delivery/Operational Plan strategy "7.3 Plan for growth and development that balances liveability with valuing the local environment".

FINANCIAL IMPLICATIONS

Nil

POLICY AND GOVERNANCE IMPLICATIONS

Nil

RECOMMENDATION

1 **That Council acknowledge the reports presented to the Local Transport Forum at its meeting held on 17 November 2025.**

2 **That Council determine recommendation *2.1* from the minutes of the Local Transport Forum meeting of 17 November 2025.**
Item 2.1 Digital Freestanding Billboard Sign – 33 Colliers Avenue, Orange
That the Local Transport Forum recommend that Council reject the Digital Freestanding Billboard Sign Development Application in its current form due to the crash type history at the western arm of the Leeds Parade/NRD roundabout.

3 **That the remainder of the minutes of the Local Transport Forum from its meeting held on 17 November 2025 be adopted.**

FURTHER CONSIDERATIONS

The recommendation of this report has been assessed against Council's key risk categories and the following comments are provided:

Service/Project Delivery	Nil
Financial	Nil
Reputation/Political	Nil
Environment	Nil
Compliance	Nil
People & WHS	Nil
Information Technology/ Cyber Security	Nil

2.2 Minutes of the Electronic Extraordinary Local Transport Forum meeting held on 17 November 2025

SUPPORTING INFORMATION

An electronic extraordinary local transport forum meeting held on 17 November 2025 considered the Digital Freestanding Billboard Sign at 33 Colliers Avenue. The papers and minutes from that meeting are attached.

ATTACHMENTS

1 Minutes of the Meeting of the Local Transport Forum held on 17 November 2025, 2025/2507⇩

2 Agenda of the Meeting of the Local Transport Forum held on 17 November 2025, 2025/2452⇩

ORANGE CITY COUNCIL

MINUTES OF THE EXTRAORDINARY LOCAL TRANSPORT FORUM

HELD AS AN ELECTRONIC MEETING

ON 17 NOVEMBER 2025

1 INTRODUCTION

ATTENDANCE

Cr Tony Mileto (Chairperson), Cr Marea Ruddy, Mr Richard Drooger (TfNSW), Det A/Insp Glenn Griffith (NSW Police), Mr Kel Gardiner (Local MP Representative), A/Director Technical Services, Works Manager, Manager Engineering Services, Road Safety Officer, Senior Parking Officer, Parking Officer, Divisional Administration Officer

***** This meeting was held out of session with all Committee members being circulated a copy of the agenda. Feedback provided out of session via email for this meeting.*****

1.1 APOLOGIES

Nil

1.2 ACKNOWLEDGEMENT OF COUNTRY

1.3 DECLARATION OF PECUNIARY INTERESTS, SIGNIFICANT NON-PECUNIARY INTERESTS AND LESS THAN SIGNIFICANT NON-PECUNIARY INTERESTS

Nil

2 GENERAL REPORTS

2.1 DIGITAL FREESTANDING BILLBOARD SIGN - 33 COLLIERS AVENUE, ORANGE

TRIM REFERENCE: 2025/2443

RECOMMENDATION **Cr T Mileto/Mr R Drooger/Mr K Gardiner**

That the Local Transport Forum recommend that Council reject the Digital Freestanding Billboard Sign Development Application in its current form due to the crash type history at the western arm of the Leeds Parade/NRD roundabout.

***** This recommendation was endorsed by Cr T Mileto, Mr R Drooger (TfNSW) and Mr K Gardiner (representative - Member for Orange). *****

ORANGE CITY COUNCIL

EXTRAORDINARY
LOCAL TRANSPORT FORUM

AGENDA

ELECTRONIC MEETING

(17 NOVEMBER 2025)

Notice is hereby given, in accordance with the provisions of the Local Government Act 1993 that an **EXTRAORDINARY LOCAL TRANSPORT FORUM MEETING of ORANGE CITY COUNCIL** will be held as an **ELECTRONIC MEETING.**

Barry Omundson
CHIEF EXECUTIVE OFFICER

Attachment 2 Agenda of the Meeting of the Local Transport Forum held on 17 November 2025

AGENDA

1 INTRODUCTION

MEMBERS

Cr Tony Mileto (Chairperson), Cr Marea Ruddy, Mr Richard Drooger (TfNSW), Sgt Adam Cornish (NSW Police), Mr Kel Gardiner (Local MP Representative), Chief Executive Officer, Director Technical Services, Works Manager, Manager Engineering Services, Road Safety Officer, Senior Parking Officer, Parking Officer, Divisional Administration Officer

1.1 Apologies

1.2 Acknowledgement of Country

I would like to acknowledge the Traditional Custodians of the land on which we meet today, the people of the Wiradjuri Nation. I pay my respects to Elders past and present, and extend those respects to Aboriginal Peoples of Orange and surrounds, and Aboriginal people here with us today.

1.3 Declaration of pecuniary interests, significant non-pecuniary interests and less than significant non-pecuniary interests

The provisions of Chapter 14 of the Local Government Act, 1993 (the Act) regulate the way in which Councillors and designated staff of Council conduct themselves to ensure that there is no conflict between their private interests and their public role.

The Act prescribes that where a member of Council (or a Committee of Council) has a direct or indirect financial (pecuniary) interest in a matter to be considered at a meeting of the Council (or Committee), that interest must be disclosed as soon as practicable after the start of the meeting and the reasons given for declaring such interest.

As members are aware, the provisions of the Local Government Act restrict any member who has declared a pecuniary interest in any matter from participating in the discussion or voting on that matter, and requires that member to vacate the Chamber.

Council's Code of Conduct provides that if members have a non-pecuniary conflict of interest, the nature of the conflict must be disclosed. The Code of Conduct also provides for a number of ways in which a member may manage non pecuniary conflicts of interest.

RECOMMENDATION

It is recommended that Committee Members now disclose any conflicts of interest in matters under consideration by the Local Transport Forum at this meeting.

2 GENERAL REPORTS

2.1 Digital Freestanding Billboard Sign - 33 Colliers Avenue, Orange

RECORD NUMBER: 2025/2443
AUTHOR: Jason Theakstone, Manager Engineering Services

EXECUTIVE SUMMARY

This report serves to provide the Local Transport Forum (LTF) further technical information in relation to Item 3.3 of the agenda of the LTF meeting held on 11 November 2025 - DA233/2025(1) Digital Freestanding Billboard Sign – 33 Colliers Avenue, Orange.

LINK TO DELIVERY/OPERATIONAL PLAN

The recommendation in this report relates to the Delivery/Operational Plan strategy "7.3 Plan for growth and development that balances liveability with valuing the local environment".

FINANCIAL IMPLICATIONS

Nil with this recommendation.

POLICY AND GOVERNANCE IMPLICATIONS

Nil with this recommendation.

RECOMMENDATION

That the Local Transport Forum recommend that Council reject the Digital Freestanding Billboard Sign Development Application in its current form due to the crash type history at the western arm of the Leeds Parade/NRD roundabout.

FURTHER CONSIDERATIONS

The recommendation of this report has been assessed against Council's key risk categories and the following comments are provided:

Service/Project Delivery	Nil
Financial	Decisions may lead to financial implications of legal appeals.
Reputation/Political	The outcome may attract public or political scrutiny, especially if perceived as inconsistent or contentious.
Environment	Nil
Compliance	The decision must align with planning legislation, regulation and controls and Council policies to avoid legal risk.
People & WHS	Development activities may introduce safety risks for workers, residents or the broader community.
Information Technology/ Cyber Security	Systems used to assess and manage the application must ensure data integrity and secure handling of sensitive information.

SUPPORTING INFORMATION

At the Planning and Development Committee Meeting held on 4 November 2025, a report was tabled following a request from Regional Dooh Pty Ltd for the erection and display of a digital freestanding billboard sign at 33 Colliers Avenue, Orange.

2.1 Digital Freestanding Billboard Sign - 33 Colliers Avenue, Orange

At that meeting, it was resolved:

That Council resolves to DEFER development application DA 233/2025(1) for Advertisement (digital freestanding billboard sign) at Lot 95 DP 1180866, 33 Colliers Avenue, Orange for the purpose of obtaining more information and input from NSW Police and the Local Traffic Forum.

This issue was referred to the Local Traffic Forum (LTF) meeting held on 11 November 2025 with some further information being requested:

1 Is there Technical Literature on the safety effect of road users because of electronic advertising signs of this nature?

Chapter 3.2.3 of the 2017 Transport Corridor Outdoor Advertising and Signage Guidelines states:

a. *The sign should not be located:*
   - i *less than the safe sight distance from an intersection, merge point, 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.*
   - iii *so that it is visible from the stem of a T-intersection.*

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 6-9m) or higher.*

The safe intersection sight distance for a 70 km/h speed zone is 92m and the *safe stopping* sight distance is 85m. By observations on 13 November 2025 during AM and PM peak hour, the traffic on the westbound approach of the NDR doesn't stack into either distance however is on the sharp curve.

The photo below shows the sign location doesn't obstruct a drivers view of a hazard, intersection or warning sign.

2.1 Digital Freestanding Billboard Sign - 33 Colliers Avenue, Orange

Section 4.4 of Austroads 2013 Impact of Roadside Advertising on Road Safety Research Report (attached to this report) states the following for LTFs consideration.

- *"The fundamental logic of roadside advertising is to attract attention to something that is not part of the driving task"*
- *"While attention may be less likely to be captured by irrelevant material in a demanding driving situation, it is clear that in some driving situations it is likely that movement or changes in luminance will involuntarily capture attention and that particularly salient emotional and engaging material will recruit attention to the detriment of driving performance, particularly in inexperienced drivers. Where this happens in a driving situation that is also cognitively demanding, the consequences for driving performance are likely to be significant. Furthermore, if this attentional capture also results in a situation where a driver's eyes are off the forward roadway for a significant amount of time this will further reduce safety. Additionally, road environments cluttered with driving-irrelevant material may make it difficult to extract the information that is necessary for safe driving, particularly for older drivers."*
- *"The studies that have been conducted show convincingly that roadside advertising is distracting and that it may lead to poorer vehicle control. However, the evidence is presently only suggestive of, although clearly consistent with, the notion that this in turn results in crashes."*
- *"From a Safe System perspective, it would be difficult to justify adding any infrastructure to the road environment that could result in increased distraction for drivers. The exception to this may be in the case of very monotonous roads where drivers are likely to suffer the effects of passive fatigue."*

From a pure traffic practitioners perspective there is no potential benefit in approving the sign, only potential risks outlined by the comments above.

2.1 Digital Freestanding Billboard Sign - 33 Colliers Avenue, Orange

2 What is the Crash History at this area?

There was a head on crash south of the proposed advertising sign in 2021 (see below):

Rear end and side swipe crashes are the typical crashes at roundabouts. The cross traffic and roll over crashes at the westbound approach of the Leeds Parade roundabout (see below) are out of character to a roundabout type crash and would indicate motorists are approaching the roundabout too fast or unaware of the roundabout. One could argue that a distraction of an advertising sign prior to the westbound approach would add to these types of crashes.

2.1 Digital Freestanding Billboard Sign - 33 Colliers Avenue, Orange

Considering the crash history at the roundabout, it is recommended that LTF recommend to Council not to approve the Digital Freestanding Billboard Sign Development Application in its current form and ask the Applicant to consider another location.

ATTACHMENTS

1 Austroads - Impact of Roadside Advertising on Road Safety, D25/138420

AP-R420-13

AUSTROADS RESEARCH REPORT

Impact of Roadside Advertising on Road Safety

Austroads

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Project Manager

David Jorgensen, Transport and Main Roads Qld

Prepared by

Paul Roberts, Kathy Boddington and Libby Rodwell
ARRB Group

Published by Austroads Ltd
Level 9, Robell House
287 Elizabeth Street
Sydney NSW 2000 Australia
Phone: +61 2 9264 7088
Fax: +61 2 9264 1657
Email: austroads@austroads.com.au
www.austroads.com.au

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- provide expert technical input to national policy development on road and road transport issues
- promote improved practice and capability by road agencies.
- promote consistency in road and road agency operations.

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- Roads Corporation Victoria
- Department of Transport and Main Roads Queensland
- Main Roads Western Australia
- Department of Planning, Transport and Infrastructure South Australia
- Department of Infrastructure, Energy and Resources Tasmania
- Department of Transport Northern Territory
- Department of Territory and Municipal Services Australian Capital Territory
- Commonwealth Department of Infrastructure and Transport
- Australian Local Government Association
- New Zealand Transport Agency.

The success of Austroads is derived from the collaboration of member organisations and others in the road industry. It aims to be the Australasian leader in providing high quality information, advice and fostering research in the road transport sector.

CONTENTS

TABLES

FIGURES

SUMMARY

It is now widely recognised that distraction is a significant contributor to crashes. While there has been a focus on in-vehicle distraction, especially from mobile phone use, in recent years there has been a growing recognition that distraction may arise from sources outside the vehicle. In particular, roadside advertising has been suggested to have the potential to create a crash risk in this way. With the emergence of digital technology it is now the case that advertising scenes can change frequently and may even contain motion and it is this potential for movement in the visual scene that is of special concern from a distraction perspective.

Currently, while most road authorities have applicable guidelines to inform the design and placement of roadside advertising, these are quite diverse across jurisdictions and often do not deal appropriately with digital technology. In addition, the actual distraction risk associated with roadside advertising is not incorporated and communicated well in these guidelines.

Therefore, the aims of this project were to; firstly, review the extant literature on the distraction risk associated with roadside advertising and to communicate this. The second aim was to document and review the existing guidelines across road agencies so that inconsistencies and gaps could be identified. Finally, these outputs were to be used to inform guiding principles and make guidance recommendations that can be used to create guidelines and to harmonise guidelines across road agencies.

1 INTRODUCTION

1.1 Background

Australia's new National Road Safety Strategy notes that, 'Driving is a complex task and sources of driver distraction, both within the vehicle and in the general road environment, have increased substantially in recent years' (National Road Safety Strategy 2011–2020, p. 83). While it is recognised that inattentive driving is a contributor to road crashes and that roadside advertising may be one of the contributors to such inattention, criteria for the management of roadside advertising devices vary considerably between jurisdictions. In a number of jurisdictions, responsibility for the criteria resides with the planning agency, while in others it is a road agency function. A number of road agencies have sponsored projects to better inform themselves about the safety implications of outdoor advertising, which also has contributed to variations in jurisdictional practice. Given that the income derived from outdoor advertising can be significant, particularly on high volume corridors, the state practice guidelines are able to be 'played off' against each other by the outdoor advertising industry.

In addition, a significant emerging safety issue is the use of digital display technology for outdoor advertising signs. This new technology will enable the advertising industry to display more attention-getting messages that are likely to cause drivers to be less attentive to the driving task. Some recent work in the United States, submitted under NCHRP Project 20-7 (256) by the Veridian Group, reports that

> 'the newest digital billboards are also increasingly capable of 'interacting' with approaching drivers. In some cases, the Radio Frequency Identification Device (RFID) embedded in a vehicle's key or on-board computer system, can trigger a personalised message on a digital billboard; in other cases, the billboard can display a message tailored to the radio frequency of passing vehicles. Still other billboards encourage drivers to interact with the sign by 'texting' a message or calling a number displayed on the billboard' (Wachtel 2009).

1.2 Purpose and Outline of the Project

For these reasons there is considerable interest in coming to a definitive understanding of the risks associated with roadside advertising in its various guises so that informed guidelines for the regulation of such advertising can be formulated.

This project is designed to facilitate the harmonisation of agency criteria for the management of roadside advertising devices and promote improved and consistent practice by road agencies. Most importantly, it will assist road agencies to understand and address a significant emerging safety issue – the use of digital display technology for outdoor advertising signs.

There are four major tasks in this project:

- review the human factors elements relevant to understanding the possible safety implications of roadside advertising
- undertake a literature review of existing research investigating the distraction potential of roadside advertising
- document the guidelines, practices (and underpinning rationale) adopted by road and planning agencies for the management of roadside advertising
- develop 'best practice' guiding principles and guidelines for the placement of outdoor advertising signs.

2 METHOD

The research method included extensive desktop research, including internet, library and database searches to locate all relevant material (English language only).

This process was conducted with the aid of the M.G. Lay Library. The M.G. Lay Library contains the most comprehensive and up-to-date collection of international literature on land transport issues (particularly roads) in Australia, and is one of the leading technical libraries in its field in the world. The library is staffed by a team of full time professionally qualified staff. The ARRB Group library has close contact with major libraries both in Australia and overseas, for example the Library at the UK Transport Research Laboratory. Inter-library loans are easily arranged, or document abstracts in other libraries can be accessed via on-line communications. The Australian Transport Index (ATRI), the International Transport Research Documentation database (ITRD), and the Transportation Research Information Services (TRIS) were all searched for relevant information.

ATRI is a database produced by ARRB Group. The Australian Transport Index provides a record of significant material published about roads and land transport in Australia, the United Kingdom, the USA, Europe and Asia. Many of the records include an abstract. The Australian Transport Index is available online and on CD-ROM through Informit, the electronic publishing arm of RMIT University. ATRI contains over 143 000 records. ITRD is managed by the OECD Division of Transport. ITRD covers published technical literature from around the world as well as details of current research projects. The database contains information from 40 major technical institutes from 24 countries and more than 350 000 references including an informative abstract. TRIS is a database prepared by the US Transportation Research Board and covers all modes of transport. It includes publications and descriptions of research projects and contains over 450 000 references.

Following the preparation of the review of the research literature and existing guidelines a workshop was held to disseminate and discuss the outputs of these reviews and to come to some agreement about their implications. Attendees included representatives of state and territory road agencies and academics with expertise in the area. The list of attendees is shown in Appendix A.

3 ROADSIDE ADVERTISING DEVICES

Roadside advertising devices are defined in this report as all advertising signs and devices which are visible to road users (intentionally or otherwise) and are used to display advertising copy that promotes a product, service, event or any other activity for an organisation that would derive a benefit from the display of the advertising. For the purpose of this project, the focus is on advertising devices which are located within or are visible from the boundaries of state-controlled roads[1].

Definitions and terminology used to describe different types of roadside advertising devices can vary considerably, both internationally and across Australian states. The sections below provide a comprehensive summary of the most commonly used devices in Australia that are likely to impact on road safety, detailing industry standards where appropriate. The categories adopted here reflect common industry classification schemes.

Within the summary, devices have been primarily categorised as non-changeable or changeable. Another important characteristic used to distinguish between devices is luminance. Both non-changeable and changeable devices can be illuminated, as discussed in greater detail in Section 3.3.

3.1 Non-changeable Advertising Devices

Non-changeable devices display a single advertisement copy that can only be changed manually on-site. The content of the advertising copy remains static (i.e. constant) for the duration of the display.

Conventional billboards and posters

These devices refer to large advertising signs, greater than 4 m^2, with messages that incorporate words, symbols or pictorial displays and are printed on paper or alternative materials such as computer generated woven polyester panels or 'skins'. As illustrated in Figure 3.1, the advertising copy may be mounted on freestanding structures or attached to building walls, roofs and overhead transport infrastructure (e.g. bridges and overpasses). The messages displayed on these conventional devices do not change unless manually replaced on-site.

A variety of sizes are used; the 24 Sheet poster, or traditional 'Billboard', is the most frequently used format in outdoor advertising. The messages may be illuminated through external power sources, although this does not usually achieve the same perceived brightness as the digital billboards described in Section 3.2.2. Table 3.1 provides an overview of the different formats of poster used in roadside advertising in Australia.

[1] It should be noted that considerable roadside advertising is situated adjacent to non state-controlled roads.

Source: Department of Planning NSW (2007).

Figure 3.1: Examples of a freestanding billboard (top), wall-mounted billboard (left) and bridge-mounted billboard (right)

Table 3.1: Conventional billboard and poster formats used in outdoor advertising

Category	Format	Typical industry dimensions/area	Markets	Illumination
Large format	Spectaculars	18.9 m x 4.5 m (> 50 m²)	City and regional – principal arterial roads, highways and freeways	Yes
	Supersites	12.66 m x 3.35 m (42.4 m²)	City and regional – principal arterial roads, highways and freeways	Yes
Poster	24 sheets	6.0 m x 3.0 m (18.0 m²)	City and regional – including highways, primary / secondary arterial roads, railway interchanges, suburban commercial and industrial areas	Often
	6 sheet	3.0 m x 1.5 m (4.5 m²)	City – mainly displayed on building walls in suburban locations	Occasionally

Other contexts in which conventional billboard or poster formats are displayed are described below and illustrated in Figure 3.2.

Mobile/portable billboards

Mobile or portable billboards generally consist of posters mounted on small commercial vehicles or trailers, sometimes illuminated and with two-sided displays. The vehicle remains motionless while the advertisement is displayed.

Public transport shelter and street furniture poster displays

Posters are commonly displayed as an integral part of freestanding structures such as bus stop shelters or on street furniture in business and entertainment areas of city centres. They are usually illuminated and typical dimensions are 1.8 m x 1.2 m or 1.5 m x 1.0 m.

Source: NZTA (2011) (left) and Department of Planning and Community Development (2007) (right).

Figure 3.2: Examples of a mobile billboard (left) and a billboard displayed as part of a bus shelter (right)

Other

There are numerous other miscellaneous formats of non-changeable advertising devices that are commonly used on the road network, although often prohibited on some roads such as freeways and motorways. These include but are not limited to:

- local business, community and event signs
- real estate signs
- tourist information signs
- banners and flags
- paintings or murals on building walls
- building wrap and hoarding
- transit displays (i.e. on moving vehicles such as buses, trams and taxis)
- aerial displays.

3.2 Changeable Advertising Devices

Changeable advertising devices have the capability to mechanically or electronically change the advertising message being displayed automatically or remotely i.e. without the requirement for human intervention on-site. This enables more than one advertisement to be presented, either through the rotation of static images at specified intervals or the use of dynamic displays.

3.2.1 *Mechanically-changed*

These devices allow the presentation of two or more static messages that are rotated mechanically (i.e. by a motor) through a pre-determined sequence at regular intervals, while the supporting structure remains stationary. There are motionless periods in between the presentation of different messages and the number of messages that can be displayed is restricted. Unlike electronic devices, the change between advertising messages cannot be instantaneous.

Trivision

In trivision devices, messages are printed onto a series of adjacent vertical prisms (usually three-sided), which when aligned display a single advertising image. The prisms are rotated in unison, typically every four to ten seconds, to show one of three messages. They are also referred to as 'tri-action', 'tri-panel' or 'changing slat' signs. These devices are typically 3 m x 6 m or 12 m x 3 m in dimension.

Multi-advertisement scrolling

Also referred to as rolling devices, these devices have multiple advertisements printed onto a looped canvas or connected to form a single scroll. The scroll is usually wound around a vertical axis using a motorised spool, so that the adverts are sequentially presented in the front display panel. These are often smaller signs installed at street level or incorporated into public transport infrastructure such as bus stops. The advertisements are often illuminated or backlit.

3.2.2 *Electronically-changed*

These devices use digital technology to display bright, high quality electronic images which are uploaded and changed using a computer and modem via a secure network. Digital billboards feature LED (light emitting diode) technology which enables luminance to be controlled and adjusted automatically. Within Australia, Victoria was the first state to permit these types of signs on its road network.

Digital billboards

Similar to conventional billboards, digital billboards are generally large signs with dimensions greater than 4 m^2 displaying messages which incorporate text, symbols and other pictorial or graphical images. Digital billboards can utilise static electronic displays or non-static electronic displays. They are also known by a large variety of terms including electronic billboards, electronic message displays, dynamic message signs, commercial electronic variable message signs, video billboards and moving or animated electronic signs. The two display types are described below.

- *Static electronic displays* contain static images only which are presented successively but do not contain or imply motion within the message itself. The device is programmed to alternate the static images at short intervals. Dwell time, transition time and luminance can all be controlled and changed electronically. Different approaches can be taken to the transition between messages e.g. scroll, dissolve, fade or fly-in. In the USA, typical dwell times for digital billboards range between four and ten seconds (with restrictions on proximity to entry and exit ramps), with transition times varying between instantaneous to four seconds (OMA 2010). These times are comparable to standards in other countries such as Canada and the UK. Some Australian states however currently utilise longer dwell times, as detailed in Section 7. It is worth noting that a number of jurisdictions in the USA also depart from these parameters quite substantially, with mandated dwell times of up to many minutes (e.g. Minnetonka, MN; Bloomington, MN) or outright prohibition of digital billboards (e.g. Pennsylvania DOT).

- *Non-static or dynamic electronic displays* present moving images, or images with features that give the impression of motion and change dynamically similar to a video. This includes animation, flashing, scrolling, intermittent or full-motion video and special effects. These displays are not commonly permitted in many countries, including the UK and the majority of jurisdictions in Australia and America.

Figure 3.3: Examples of digital billboards located within the boundaries of (left) or visible from (right) state-controlled roads

Furthermore, rapidly developing technology is enabling more advanced functions which allow digital billboards to interact with road users, for example by the sign displaying a personal message for a specific driver as they approach or by allowing road users to download images and data.

Variable message signs (VMS)

VMS are primarily used by road authorities with the purpose to present messages to motorists to facilitate more effective management of traffic and to promote road safety. VMS have the capability to present text and/or graphical displays.

In Australia, traffic VMS are generally static electronic text-only displays and are most commonly used to display a single message for a significant period of time. Road agencies usually prescribe detailed specifications regarding the format and content of these signs, including size of text, use of colour and permitted words. Messages may be tactical (e.g. incident warnings) or advisory (e.g. safe driving advice or journey time information). Under normal traffic conditions, when there is no need for a safety-critical instruction, the road authority may authorise use of the sign to display other information which may have relevance for both traffic management and advertising; for example, details of upcoming special events.

VMS can also be used solely for commercial advertising purposes. These are often in the form of portable devices located on lower speed roads and adjacent to business premises, as illustrated in Figure 3.4.

Figure 3.4: Example of a variable message sign displaying advertising content

Projection on to buildings

It is also possible to project both still and video images directly on to buildings. While this approach is quite common in some parts of North America and Europe, it has been uncommon in Australia until quite recently. It is now becoming more common in Australia for special events such as New Year's Eve celebrations and the like. However, the advantages of such an approach (reduced infrastructure and installation costs) suggest that there is likely to be increasing interest in deploying this technique in Australia in the future.

Source: http://www.nuformer.com/.

Figure 3.5: Example of advertising projected on to a building

3.3 Illumination

It is important that advertising devices are illuminated appropriately for the ambient light conditions to ensure there is no unacceptable glare (making it difficult to read the sign because of excessive external light sources) or reflectance (making the sign itself so bright that it is distracting) that may result in safety issues for road users or that will produce unacceptable light spillage to the local environment. Advertising devices can be classified according to the following definitions:

Non-illuminated devices do not have specifically designed internal or external means of illumination, although they may be indirectly illuminated by street lighting or other local light sources. They may be non-reflective, retro-reflective or partially retro-reflective.

Illuminated devices have specifically designed internal and/or external means of illumination of the entire advertising copy or a portion of the device. Both changeable and non-changeable devices can be illuminated.

Externally illuminated devices have an external light source which is used to illuminate the advertising copy (see Figure 3.6). For example, through the use of fluorescent and/or incandescent bulbs. They may also be referred to as floodlit signs, and most commonly consist of conventional billboards and posters.

Internally illuminated devices have internal lighting to illuminate the advertising copy, see Figure 3.6. This includes digital billboards which use LED technology, as well as devices which contain lights or illuminated tubes arranged as an advertisement such as neon signs. The lighting can be adjusted, either automatically using sensors or manually, to match the appropriate luminance for ambient light conditions.

Static illumination refers to illuminated advertising devices where the illumination of the entire device is constant in form, intensity and colour; for example, an externally-lit conventional billboard.

Non-static illumination refers to an illuminated advertising device where the illumination of the entire device is not constant in form, intensity and colour. For example, animated and video displays or advertisements incorporating flashing, scintillating or blinking lights which emit light intermittently.

Source: Department of Planning NSW (2007) (right).

Figure 3.6: Example of an externally illuminated advertising device (left) and an internally illuminated advertising device (right)

4 GENERAL HUMAN FACTORS CONSIDERATIONS

4.1 Introduction

Driving a motor vehicle is a complex task that requires the ability to divide one's attention between numerous competing tasks. Drivers must simultaneously maintain an appropriate and legal speed, change lanes, navigate traffic and intersections and read and interpret signs of various kinds. Furthermore, drivers are often challenged by conditions that can change almost instantaneously. Some of these changing conditions can be critical to the driving task while others are not. When they are not they are therefore potential distractions from the driving task. Such distractions can result from factors either internal or external to the vehicle.

This review is focussed on distraction from an external source; advertising billboards. The fundamental logic of roadside advertising is to attract attention to something that is not part of the driving task. In order to contribute to the current evaluation of whether this might have an impact on driving safety, the following sections review the nature of attention and some perceptual issues that are likely to be important to the driving task.

4.2 The Nature of Attention

There are two key aspects of attention that are important for understanding the problem of distraction from advertising billboards. One is the automatic capture of attention and the other is the limited capacity of human attention.

4.2.1 Automatic Capture of Attention

One concern with digital billboards in particular is that drivers will deliberately attend to them at the expense of the driving task purely to see what is displayed in the next transition (the Zeigarnik Effect; see e.g. Watchel 2009[2]). Contrary to this concern however, it has been found that drivers typically modulate their off-road glances, not looking away from the forward roadway for more than 1.5 seconds at a time (Dingus et al. 1989). Despite this, there is concern that such self-regulation could be involuntarily disrupted by the attention-grabbing properties of roadside advertising.

While the notion of attention is to some extent synonymous with voluntary, goal-directed activity, nevertheless it appears that attention may sometimes be captured involuntarily by certain events. For example, most people would have had the experience of sudden movement in their peripheral vision resulting in a seemingly automatic orienting in that direction. The question for the current purpose is, when and to what extent this is likely to occur. If one is walking alone on a dark street in a bad neighbourhood then the answer is likely to be; frequently and dramatically. But what about when it is not important, or not desirable, to display such vigilance? What happens when a digital billboard changes or animates in peripheral vision when driving? Can we avoid being distracted by such stimuli?

In recent years researchers have been investigating to what extent this attentional capture is outside of voluntary control and what kinds of stimuli give rise to it. This interest has been driven by purely theoretical considerations, but obviously has important implications for understanding the distraction potential of various kinds of roadside advertising. While there is still debate over some of the theoretical subtleties in this research, there are some clear findings of relevance to the issue of the distraction potential of roadside advertising.

[2] There is good evidence that people have a need to complete a task once initiated and that if the task is not completed there will be some continuing cognitive effort devoted to this, potentially to the detriment of other ongoing cognitive activity such as driving for example (see Greist-Bousquet, S., Schiffman, N. 1992).

While some early research suggested that the appearance of new objects in the visual field was the key to predicting attentional capture (e.g. Yantis & Hillstrom 1994), other research suggested that luminance changes were necessary to capture attention (Theeuwes 1995). More recent research appears to suggest that the presence of unique sensory transients may be the key to predicting attentional capture (Hollingworth, Simons & Franconeri 2010). That is, in order to capture attention there must be a salient change in the environment that creates a new event in the observer's sensory system. This could be luminance changes, which could arise from the appearance of a new object, or motion in a previously immobile object.

With respect to the issue of the extent to which the capture of attention is involuntary; the research is similarly complicated. While some research appears to show that involuntary attentional capture by environmental events does occur, other research suggests that this attentional capture can be suppressed (Yantis & Jonides 1990). The key seems to be that this suppression is more likely if the primary task is very demanding and requires a focussed attentional state, but that such suppression becomes less likely as the primary task becomes less demanding, requiring a less focussed attentional state (Lamy & Tsal 1999; Ruz & Lupianez 2002). The results of Young et al. (2009) showing poorer recall of road signs (suggesting greater attention to roadside advertisements) are consistent with this and are discussed in more detail below.

The typical driving task and driving environment is quite undemanding, with a diffuse focus of attention. Generally drive while talking to a passenger and looking at the scenery and roadside environment generally. Only when, for example, they are on an unfamiliar road, driving at high speed, in heavy traffic, while trying to navigate to an unfamiliar destination is the driving task likely to become demanding. Thus, the fundamental research reviewed above suggests that in typical everyday driving environments attention is likely to be captured involuntarily. In addition, this fundamental research also suggests that motion and luminance changes in digital billboards are likely to be highly effective in capturing attention involuntarily.

4.2.2 Attentional Biases

It is well known that attention may be controlled by the emotionality of information. For example, the sound of someone crying will likely attract our attention. This is not surprising as emotional content is likely to signify that the information is important from a survival perspective. Less well appreciated within road safety is the fact that personality factors appear to dictate how attention to emotional material is controlled. For example, in a seminal study, MacLeod, Matthews and Tata (1986) demonstrated that clinically anxious subjects directed attention towards threatening material, at the cost of attention to other material, while non-anxious subjects directed attention away from threatening material. This processing bias appears to occur automatically and outside of awareness (MacLeod & Rutherford 1992).

Most et al. (2005) provided another demonstration of how the emotionality of material may distract attention away from critical target material. They presented a series of photographs and asked participants to respond to a particular target. When the target was preceded by a photograph with a negative emotional content, participants more often missed the target than when it was preceded by a neutral photograph. This 'blindness' was evident up to 800 msec after the presentation of the emotional photograph. Participants who scored low on harm avoidance were more easily able to modify their cognitive processing to reduce the induced blindness when given appropriate instructions than were participants who scored high on harm avoidance.

These considerations suggest that billboards with emotional content have a greater capacity to attract and hold the attention of individuals for whom that emotional content is significant, and this may result in decrements in driver performance.

4.2.3 *Limited Capacity of Attention*

Once attention is captured or is strategically focussed, the processing of the material within the focus of attention competes with other ongoing for cognitive resources. It is well understood that processing resources may have limited capacity (Wickens 2002). This can be seen very clearly in everyday tasks such as trying to follow a news item on television while having a phone conversation; comprehension of one or the other is likely to suffer.

However, drivers can drive quite successfully most of the time while having a conversation. This is because large chunks of the task of driving are relatively automated and/or do not draw on the same processing resources. When this is not the case driving performance is apt to suffer. For example, because driving relies so heavily on visual information processing, driving and comprehension performance are better when instructions are presented verbally while driving than if they are presented visually (Parkes & Coleman 1990). For the same reason, billboards always have the potential to interfere with driving performance.

Even if billboards do not deflect gaze direction away from the forward roadway, to the extent that they have captured attention they are likely to reduce the processing capacity available for other visual information processing required for driving. Furthermore, as Strayer and Johnston (2001) have shown in the case of mobile phone conversations, some driving-irrelevant stimuli can sometimes be so engaging that essentially all spare capacity is recruited to the secondary task, with serious consequences for driving performance. A billboard that was this engaging would undoubtedly be a serious safety risk for driving.

Concerns about irrelevant processing consuming resources required for optimal driving performance are even more salient for inexperienced drivers. Inexperienced drivers demonstrate significantly greater impairment from secondary tasks while driving (Shinar, Meir & Ben-Shoham 1998). The most likely explanation for this is that many of the tasks involved in driving are not yet as automatised as they are for experienced drivers and therefore compete for limited processing resources to a greater extent.

4.3 Perceptual Issues

4.3.1 *Eyes Off the Forward Roadway*

Thus far consideration has been given to how the capture of attention and the consumption of processing capacity by roadside advertising might impact on driving performance. Another way in which roadside advertising is likely to impact on driving performance is via inappropriate visual fixation, usually away from the forward roadway. That is, even if cognitive capacity is not being consumed to such a degree as to impair driving performance in itself, the fact that a driver is not looking in the correct direction to safely negotiate the road and other traffic may result in an incident, especially if conditions change suddenly.

In a key finding in this area, Klauer et al. (2006), in an analysis of the 100-Car Naturalistic Driving Study, found that glances away from the forward roadway for more than two seconds doubled the near-crash and crash risk compared to baseline. This result is averaged across all road types and traffic conditions. One can imagine that in challenging road environments in heavy traffic this risk would be much greater. At 70 km/h a two second glance away from the forward roadway equates to just under 40 m of travel down the roadway. In certain road environments and in heavy traffic it becomes quite likely that conditions in the forward roadway will have changed over this distance and hence that a driver not looking ahead will not be able to respond appropriately to these changes.

4.3.2 *Visual Clutter*

It seems intuitively plausible that the presence of driving-irrelevant material in the driving environment will hinder the apprehension of driving relevant information. A key prediction from this hypothesis is that increased visual clutter (defined as driving irrelevant stimuli) will result in decreased ability to locate critical information. Consistent with this, when Ho et al. (2001) asked participants in their experiment to rate driving scenes as either high or low clutter, they found that scenes rated as high clutter resulted in more errors when searching for a target sign. McPhee et al. (2004) found that this kind of impairment was further exacerbated by requiring participants to engage in a listening and comprehension task simultaneously with the search task. In addition they found that older adults performed more poorly than younger adults on the search task.

While these results imply that care should be taken to not clutter the road environment with driving irrelevant items, including roadside advertising, it does not provide an easy-to-use, objective measure of clutter that could be used to make decisions about the installation of additional objects in the road environment. While there has been some recent research aimed at deriving a metric for clutter (Rosenholtz, Li & Nakano 2007) this is not sufficiently developed to allow its application to a road environment. On the other hand, given that subjective estimates of clutter appear to be reliable and predict key aspects of driving performance (Ho et al. 2001; McPhee et al. 2004), it may be sufficient for practical application to use a subjective judgement of clutter until clutter assessment tools are available.

A better approach is currently being developed by Edquist et al. (in prep). They have provided evidence that clutter can usefully be conceptualised as falling into three categories – Built (buildings and other infrastructure), Designed (road markings and traffic control devices) and Situational (vehicles and other road users). Their experiments suggest that multi-storey buildings close to the road (such as typical commercial developments) and a larger number of traffic control devices on view (more than three at any one time) have a negative effect on driving performance. It also seems likely that high traffic volumes (high situational clutter) will also have a negative effect on driving performance although this has not been clearly demonstrated in their research to date.

4.4 Summary

Most drivers, in most driving situations, most of the time, probably possess substantial spare cognitive capacity for the processing of driving-irrelevant information. Given this, and given the exploratory nature of human cognition and the likelihood that drivers attempt to maintain an optimal level of arousal via task difficulty homeostasis (Fuller 2005), it may be very difficult to prevent drivers from directing attention away from the driving task (Trick & Enns 2009). This in itself is not necessarily undesirable as it may serve to maintain an appropriate level of arousal, thus combating the negative effects of monotony (e.g. Oron-Gilad, Ronen & Shinar 2008). Indeed, in a recent Austroads (2011) study it was found that roadside signage that was designed to engage drivers in some mental activity, improved driver alertness.

The key question is whether there are situations or individuals where processing is recruited or interfered with by driving-irrelevant material to the detriment of driving performance. The considerations reviewed above suggest that the answer to this is in the affirmative. While attention may be less likely to be captured by irrelevant material in a demanding driving situation, it is clear that in some driving situations it is likely that movement or changes in luminance will involuntarily capture attention and that particularly salient emotional and engaging material will recruit attention to the detriment of driving performance, particularly in inexperienced drivers. Where this happens in a driving situation that is also cognitively demanding, the consequences for driving performance are likely to be significant. Furthermore, if this attentional capture also results in a situation where a driver's eyes are off the forward roadway for a significant amount of time this will further reduce safety. Additionally, road environments cluttered with driving-irrelevant material may make it difficult to extract the information that is necessary for safe driving, particularly for older drivers.

5 REVIEW OF RESEARCH ON THE SAFETY IMPACT OF ROADSIDE ADVERTISING

The consideration of relevant human factors issues, outlined above, suggests that roadside advertising, especially billboards that exhibit movement and/or luminance changes, that are in an already cluttered road environment and that are especially salient and engaging, could reasonably be expected to have a detrimental effect on driving performance. This is likely to be especially true for inexperienced drivers and older drivers. However, this analysis does not directly answer the question of whether roadside advertising is actually distracting in any real driving environments, to such an extent that it leads to reduced safety and contributes to crashes. In order to evaluate this issue further the review below first discusses the evidence for the involvement of distraction in crashes and then the evidence for the involvement of roadside advertising in distraction and crashes.

5.1 Distraction as a Safety Issue

Studies based on crash reports suggest that perhaps 30% of all crashes involve driver distraction (Wang, Knipling & Goodman 1996) and in around 30% of those the distraction is from outside the vehicle (Stutts et al. 2001). However this source of data is likely to underestimate the contribution of distraction to crashes as drivers are unlikely to admit to such a cause and police may be unwilling to assign distraction as a cause without eyewitness testimony.

In one of the most compelling studies to date, Klauer et al. (2006) analysed the consequences of driver inattention using data from the 100-Car Naturalistic Driving Study. While brief glances away from the forward roadway for the purpose of scanning the driving environment were found to actually decrease the crash risk, glances of two seconds or more doubled the crash risk. In addition, this risk was further increased for certain demanding traffic environments such as intersections and high density traffic.

Some of the riskiest kinds of inattentive driving that contributed to crashes and near crashes in the Klauer et al. (2006) study originated from either drowsiness or in-vehicle distractions. Importantly, looking at an external object exhibited the second highest significant odds ratio of all distractions, (reaching for a moving object produced the highest significant odds ratio) with a driver 3.7 times more likely to have a crash or near crash when looking at an external object. However this kind of distraction accounted for less than 1% of all crashes and near crashes in the study. Thus while looking at an external object appears to be quite risky behaviour when it is engaged in, it is not a frequent cause of crashes overall.

5.2 Roadside Advertising as a Safety Issue

While the Klauer et al. (2006) study does not identify which external objects drivers were looking at when they were so looking, a number of studies have attempted to investigate whether distraction from roadside advertising specifically, might contribute to crashes.

Crundall et al. (2006) showed participants in their study video clips taken from the driver's perspective and asked them to either scan for hazards only or to look for advertisements also. Advertisements were either at street level or raised 3 m above street level. The core finding from this study was that street level advertisements attracted more attention than raised advertisements when drivers were instructed to look for hazards. Crundall et al. (2006) suggest that this occurs because street level advertisements fall within the normal window within which drivers habitually scan for hazards and that advertisements within this window are inappropriately capturing attention.

Of course this study is somewhat removed from the experience of actually driving, simply requiring, as it does, that drivers passively watch a video (although note that Crundall et al. (2006) discuss why there is good reason to believe that their methodology in this study appropriately taps the key aspects of the driving task).

This concern does not arise in the study by Lee, McElheny and Gibbons (2007). In this naturalistic study drivers drove an instrumented vehicle around a 50 mile loop in Cleveland Ohio. They found that drivers took longer glances at digital billboards than at conventional billboards and baseline sites. While there has been some criticism of their methodology and conclusions (Wachtel 2009) it would be agreed by all parties that Lee, McElheny and Gibbon's results show that in real world driving, digital billboards can be more distracting than conventional billboards.

Young et al. (2009) conducted a simulator study to investigate the effect of conventional roadside advertising on driver attention and performance. Drivers experienced urban, rural and motorway environments, with and without billboards. The presence of billboards was found to impair lateral control. Similarly, Edquist et al. (2011) found increased delay in the time taken to change lanes in response to signs in a simulator study was delayed by the presence of billboards, although not to a greater extent for changeable digital billboards. The negative impact of roadside advertising on lateral control has also been reported by Bendak and Al-Saleh (2010) in their simulator study. While the frequency of 'crashes' in Young et al.'s study was too low for statistical analysis, it is worth noting that there were three times as many crashes in the presence of billboards compared to driving conditions where billboards were absent. Interestingly, they also found that participants displayed significantly poorer recall of traffic control in the motorway and rural driving conditions, compared to urban driving conditions, suggesting that participants were spending more time processing advertisements in these less demanding driving scenarios, at the expense of attending to information that is important for safe driving.

Chattington et al. (2009) conducted a simulator study comparing the effect of static roadside advertising and moving video advertisements. They found that video advertising was significantly more distracting than static advertising, as indicated by more and longer glances towards the advertising. In addition, video advertising was found to reduce the ability to maintain a constant speed and lane position to a greater extent than static advertising.

In recent times, very few studies have attempted to investigate the impact of roadside advertising on actual crash rates. Smiley et al. (2005) investigated the impact of video advertising in Toronto on driving performance in a series of studies, including a before – after installation comparison of crash rates. While Smiley et al. found no statistically significant effect on crash rates overall, they note that sample sizes were not large enough to detect any effect that might accrue from the presence of the billboards. The descriptive statistics in this study however, are consistent with a relative increase in collisions, of all the various types, at the approaches to the video advertising sites.

There are a number of much older studies investigating the effect of roadside advertising on crash rates, but of course these do not deal with modern digital technology. In a review of these older studies, Wallace (2003) concluded that, while many are correlational, thus making it difficult to unambiguously attribute causality, nevertheless, 'the case for arguing that visual 'clutter' at junctions (associated with billboards and signs) can lead to unsafe driving is very strong' (p. ii).

5.3 Summary

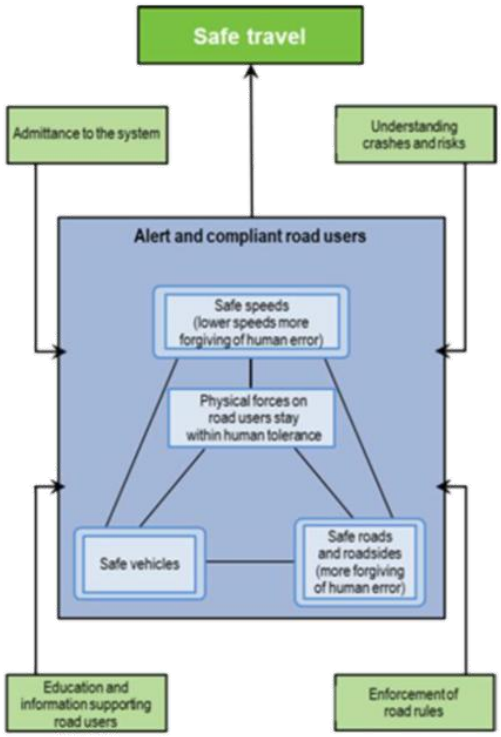
There is compelling evidence that distraction is a major contributor to crashes. However, studies providing direct evidence that roadside advertising plays a significant role in these distraction based crashes are currently not available. The studies that have been conducted show convincingly that roadside advertising is distracting and that it may lead to poorer vehicle control. However, the evidence is presently only suggestive of, although clearly consistent with, the notion that this in turn results in crashes.

It is also worth noting, on the basis of Klauer et al.'s (2006) results, that while looking at an external object increased the crash risk by nearly four times, less than 1% of all crashes and near crashes were from this source of distraction. A substantial proportion of these external objects would not have been advertising signs. Thus, while it is not possible to tell from the reported results, it is reasonable to conclude that far less than 1% of all crashes and near crashes involved distraction from roadside advertising.

While the Klauer et al. (2006) study may not be representative of all driving events, it does suggest that the contribution of roadside advertising to crashes is likely to be relatively minor. On the other hand, from a Safe System perspective it would be difficult to justify adding any infrastructure to the road environment that could result in increased distraction for drivers. The exception to this may be in the case of very monotonous roads where drivers are likely to suffer the effects of passive fatigue.

6 BEST PRACTICE PRINCIPLES

Australian and New Zealand jurisdictions are now firmly committed to the Safe Systems approach to road safety (see Figure 6.1). This approach, which is derived from the Swedish Vision Zero and Dutch, Sustainable Safety approaches to road safety, has at its core the recognition that road users are fallible and will make mistakes, even if alert and intending to comply with the road rules. As a result, vehicles and road infrastructure need to be designed to discourage errors and protect against the consequences of errors when they do occur. Within this philosophical context it is difficult to see how adding roadside infrastructure that has the potential, however minor, to encourage driver error (through distraction) could be justified.



Source: Australian Transport Council (2009).

Figure 6.1: Austroads Safe Systems diagram

However, as noted earlier, the human factors issues are not straightforward when attempting to be definitive about what is and is not desirable from a distraction perspective. Firstly, in some environments, some level of appropriate roadside 'distraction' may be desirable. Secondly, it seems very likely that if drivers are not completely engaged by the driving environment they will spontaneously engage in other 'distracting' activities. Finally, it appears that in many cases drivers regulate their engagement with potentially distracting stimuli so that its distraction potential is controlled to some extent. This does not mean that roadside advertising is of no concern, but it does mean that there are situations where it is unlikely to compromise the integrity of the Safe System. The key is to specify the principles that are important in determining those situations.

Based on the human factors issues and the specific research outlined above, the following principles should be considered when formulating guidelines for the approval and placement of roadside advertising.

6.1 Potential for Capturing Attention Involuntarily

While the function of roadside advertising is clearly to capture attention, this is undesirable from a safety perspective if it results in attention being diverted involuntarily from the central task of driving. In order to minimise the possibility that such automatic attentional capture occurs, the following principles should be considered.

6.1.1 Movement

The potential for sudden movement and change in the environment to capture attention in a way that is outside volition suggests that digital billboards should not display moving or flashing images (or lighting) or change in a way that produces an impression of movement.

6.1.2 Dwell Time

For similar reasons, the length of time for which an image is displayed should be as long as possible to reduce the frequency of those sudden environmental changes that can capture attention involuntarily.

6.1.3 Transition Time

Again, the transition time between images should be instantaneous in order to reduce the number of sudden environmental changes that could capture attention.

6.1.4 Luminance

Signs that have luminance levels that are high relative to other objects in the environment are likely to gain preferential attention and be particularly good at capturing attention when they change. As a result, digital signs should have luminance levels no greater than any other sign and preferably lower than non-changeable signs.

6.1.5 Content

As some content, particularly emotional content, can capture attention automatically, it is undesirable for such content to be used in roadside advertising. For a similar reason, content that mimics the content of traffic signs would also be undesirable.

6.2 Mental Workload

Because humans have a limited capacity for processing information simultaneously there is the potential for the processing of roadside advertising to interfere with the processing of information critical for safe driving. In order to minimise the possibility that attention is consumed to an unsafe degree the following principles should be considered.

6.2.1 Visual Clutter

A highly cluttered visual field makes it difficult to locate and prioritise processing of driving-critical information. Therefore, roadside advertising should not be placed in locations where there are already a number of existing signs and distracting material visible to a driver. The subjective impression that the driving environment is already cluttered is likely to be a good indication that further signage should be avoided.

6.2.2 Driving Demand

Aspects of the driving environment other than visual clutter are likely to increase mental workload and decrease capacity to process task-irrelevant material such as roadside advertising. In particular, intersections, decision-making points and merge points are likely to be demanding of attention. This suggests that in these and similarly demanding driving environments roadside advertising should not be visible.

6.2.3 Content

The greater the quantity of information in an advertising display, the longer it will take to process and hence the longer a driver's eyes will be off the road. This suggests that the informational load of the advertising message should be minimised as much as possible so that the content can be processed as rapidly as possible. This will minimise the time during which drivers' eyes are off the road. Similarly, advertising messages should not be displayed to create a meaningful sequence across transitions as this is likely to create an excessive quantity of information to be processed. In addition it is undesirable for more than one sign to be visible at a time as this will also increase the amount of information to be processed.

6.3 Gaze Direction

Safe driving requires that drivers are looking in the appropriate direction to maximise their information gain about critical aspects of the driving environment. Clearly if they are looking in a direction that is well outside the visual envelope of normal driving-relevant information there is the risk that such relevant information will be missed. As a result it is important that roadside advertising that attracts attention is only located in positions which obviate this possibility.

This consideration suggests that roadside advertising is best located in the line of sight of the forward roadway, provided that it does not obscure or background critical other signage, signals or infrastructure. The following principles are suggested.

6.3.1 Offset

Roadside advertising should not be substantially offset from the travel lane it is desired to be viewed from as this could move gaze direction away from the forward roadway.

6.3.2 Elevation

Roadside advertising should not be elevated to the extent that it draws gaze away from the forward roadway.

6.4 Road Environment

A final consideration is the existing safety profile of the road environment in question. For example, a road with an existing high crash rate would probably be a poor choice for installation of roadside advertising. By the same token, a road rated as risky by any of the road assessment methods (e.g. AusRAP) would also be an environment in which roadside advertising probably should not be introduced. These considerations give rise to the following principles.

6.4.1 Crash Rate Assessment

Black spot locations should not be sites for roadside advertising, especially where crash types are likely to be exacerbated by distraction (e.g. rear end).

6.4.2 Risk Assessment

Roads assessed as having an unacceptable risk profile should not be sites for roadside advertising.

7 CURRENT GUIDELINES

A review of relevant documentation was undertaken to determine the current guidance provided by each state and territory road and/or planning authority, as well as the main industry representative in Australia, the Outdoor Media Association (OMA). A summary of the review, evaluated against sign design and sign placement criteria derived from the best practice principles outlined above, is provided in Table 7.2 and Table 7.3 with ratings assigned on the following basis:

Key:

✓ – criterion is given detailed coverage in relevant policy documents and guidelines, with quantitative permission thresholds provided if appropriate.

~ – criterion is referred to within relevant policy documents or guidelines, however guidance is highly subjective or non-definitive (i.e. tends to be qualitative).

X – criterion is not covered within relevant policy documents or guidelines. This may be because it relates to a certain type of advertising device (i.e. changeable) that is not permitted by the jurisdictions.

Table 7.1 outlines the key relevant guidance documents for each jurisdiction; further details of the reference sources for the information included in Table 7.2 and Table 7.3 are provided in the accompanying spreadsheet.

Table 7.1: Key jurisdiction and/or planning authority and industry guidance documents for roadside advertising

Jurisdiction	Organisation	Document title	Date
Queensland	Department of Transport and Main Roads (TMR)	Roadside Advertising Guide	2009
South Australia	Department for Transport, Energy and Infrastructure (DTEI)[1]	Roadside Advertising In Unincorporated Areas – Operational Instruction 19.6	2008
	Department for Transport, Energy and Infrastructure (DTEI)	Roadside Advertising In Unincorporated Areas – Operational Instruction 19.7	2008
Tasmania	Department of Infrastructure, Energy and Resources (DIER)	Tasmanian Roadside Signs Manual – Part G: Advertising and Commercial Signage	2006
	Department of Infrastructure, Energy and Resources (DIER)	DIER Policy Statement OPS22 – Electronic billboards on state roads	2007
Northern Territory	Department of Construction and Infrastructure (DCI)	Guidelines for Permanent Roadside Advertising Signs on Road Reserves	2010
Australian Capital Territory	Australian Capital Territory Government	Consolidated National Capital Plan	2009
	Australian Capital Territory Government	The Code of Practice for the placement of moveable signs in public places	2005
Victoria	Department of Planning and Community Development/VicRoads	Victoria Planning Provisions 1999: Advertising Signs Clauses 52.05 (VC49), 36.04 (VC 62) and 73 (VC37), and Amendment VC45	Various
	Review of VPP Advertising Sign Provisions Advisory Committee	Advisory Committee Reviewing Advertising Sign Provisions in Victoria Planning Schemes – Issues and Options Paper	2007

Jurisdiction	Organisation	Document title	Date
Western Australia	Main Roads Western Australia (MRWA)	Roadside Advertising Standard	2000 (updated 2007)
New South Wales	Department of Planning[2] – with input from Roads and Traffic Authority (RTA)[3]	Transport Corridor Outdoor Advertising and Signage Guidelines Assessing Development Applications Under SEPP 64	2007
	Roads and Traffic Authority (RTA)	Technical Direction: Use of Variable Message Signs (VMS) – RTA Policy. TDT 2010/07	2010
New Zealand	New Zealand Transport Agency (NZTA)	Traffic control devices manual – Part 3: Advertising signs	2011
	New Zealand Transport Agency (NZTA)	Leaflet – State highways – advertising signs	2011
	New Zealand Transport Agency (NZTA)	Advertising – 'how to' guide	2011
N/A	Outdoor Media Association	Discussion Paper - Digital billboards and road safety: An analysis of current policy and research findings	2010

1 Now Department of Planning, Transport and Infrastructure (DPTI).
2 Now Department of Planning and Infrastructure.
3 Now Roads and Maritime Services (RMS).

Table 7.2: Overview of jurisdiction and industry guidance for human factors criteria relating to sign design (as at July 2010)

Sign design criteria	Movement	Flashing lights	Dwell time	Transition time	Message sequencing	Quantity of information	Information presentation	Colour	Information content/meaning	Luminance	Dimensions
Description	Covers presence of motion in the advertisement, including video and special effects within a single display/message as well as transition, movement and rotation between successive displays.	Covers use of flashing, blinking, revolving, pulsating or intermittent lights.	Also referred to as the message display duration, message on-time or exposure time.	Interval between successive displays or message. Also referred to as message change time.	Covers use of a sequence of displays and messages as part of a single advertisement.	Includes message length, quantity of text or number of informational elements.	Covers format of information including font type, text size and spacing, layout and arrangement.	Covers use of colour in general or in relation to a specific area of sign.	Covers the content and meaning of the information contained within the message including textual and graphical elements.	Covers use of luminance (or referred to as illumination) and criteria relevant to retro-reflectivity and glare.	Includes size and shape of advertising device.
Refer to Section:	6.1.1	6.1.1	6.1.2	6.1.3	6.2.3	6.2.3	6.2.3	6.1.5	6.1.5	6.1.4	6.1, 6.2 and 6.3
Jurisdiction guidelines											
Queensland – DTMR	✓ Devices with changing illumination or variable messages are not permitted within the boundaries of state-controlled roads. These devices are not permitted to be visible from Motorways/Freeways or state-controlled roads with a speed limit of 80 km/h or more. Rotating devices are permitted only when movement is about a vertical axis and where the speed limit is less than 80 km/h.	✓ Advertising devices within and outside the boundaries of, but visible from, state-controlled roads shall not contain flashing red, blue or amber point light sources. The maximum flash rate permitted for devices visible from state-controlled roads in Lighting Environments Zones 1 and 2 (central city and suburban areas with high to moderate off-street ambient lighting levels) = 2 flashes/sec. Flashing lights are not permitted when visible from road in Lighting Environment Zone 3 (rural/residential areas with low off-street ambient lighting levels). Large free-standing billboards shall not contain flashing point light sources.	✓ For trivision, VMS and illuminated multi-advertisement scrolling signs, minimum dwell time = ≥ 8 secs. For large screen VMS or strip type 'text only' VMS – where a display is part of a sequential message set, minimum dwell time = 2.5 to 3.5 secs (for a corresponding message length of two to six familiar words).	✓ For trivision and illuminated multi-advertisement scrolling signs = ≤1 sec. For VMS or strip type 'text only' VMS = ≤ 0.1 sec. The complete screen display should change instantaneously.	✓ For VMS, sequential messages not recommended. For large screen VMS or strip type 'text only' VMS, the number of sequential messages that are part of a message set may range from one to a maximum of three. In locations with high traffic volumes or a high demand on driver concentration, the number of sequential messages should be limited to two.trivision	~ For large screen VMS or strip type 'text only' VMS, the number and complexity of words used in a message should be consistent with the display duration.	~ Requirements with regards to legibility are generally advisory – provides guidance based on application of Austroads methodology.	✓ Advertising devices should not be coloured like an official traffic sign. Where a VMS is used as a 'text only' display in a sequential message set, the background colour should be uniform, non-conspicuous in colour, and should not change across the sequential message set. Where background colours do not change between series of message sets, the end of a message should be denoted by a blank time of 1 sec. Where background colours change between series of message sets, the end of a message should be denoted by a blank time of 2 secs.	✓ An advertising device may be considered a traffic hazard if it imitates a traffic control device or if it gives instructions to traffic to 'stop', 'halt' or other (e.g. give way or merge). Advertising devices should be quickly and easily interpreted.	✓ Only static illuminated and non-illuminated devices are permitted within the boundaries of state-controlled roads. Advertising devices should not be illuminated like an official traffic sign. Maximum average luminance for devices on state-controlled roads for different lighting environments: • Zone 1 (central city areas) = 500 cd/m² • Zone 2 (suburban areas) = 350 cd/m² • Zone 3 (rural/residential areas) = 300 cd/m² External illumination sources shall be shielded to ensure that external 'spot' light sources are not directed at approaching motorists. Any light source shall be shielded so that glare does not extend beyond the device. The supporting structure shall have a non-reflective finish to prevent glare. Devices containing retro-reflective material shall be rotated approximately five degrees away from the	✓ Advertising devices should not be shaped like an official traffic sign. Max. area of any face of a Category 1 Advertising Device = 43 m². For Category 3 advertising devices (passenger transport shelters and seats), the max. area of each device = 2.2 m². For Category 2 advertising devices (illuminated advertising panels above illuminated street name plates), the max. area of each face = 2.2 m². Devices attached to overhead transport infrastructure should be contained within the silhouette or major portion of structure. Signs within the boundaries of state-controlled roads may be limited to accepted industry standards.

Sign design criteria	Movement	Flashing lights	Dwell time	Transition time	Message sequencing	Quantity of information	Information presentation	Colour	Information content/meaning	Luminance	Dimensions
Queensland – DTMR (cont.)										normal line of vehicle headlight beams in order to minimise specular reflection.	
South Australia – DTEI[1] *(Note that criteria generally apply to advertising in incorporated areas only – advertising is not generally permitted in unincorporated areas. Advertising signs are generally not allowed on DTEI arterial roads and highways)*	X	✓ No advertising display shall be allowed to be placed or maintained if visible from the road and displaying any red or blinking or intermittent light likely to be mistaken for a warning or danger signal.	X	X	X	X	X	X	✓ No advertising display shall be allowed to be placed or maintained if imitating any directional, warning, regulatory or tourist sign, or any sign likely to be mistaken for any such permitted sign, or if likely to be construed as giving warning to traffic, such as by use of the words 'stop' or 'slow down'. Signs must be legible from an appropriate distance and designed and installed so that they may be identified and read by an approaching driver in advance to avoid driver distraction from their primary task of safely controlling the motor vehicle.	~ No advertising display shall be allowed to be placed or maintained if the illumination from the display is of such brilliance so positioned as to blind or dazzle the vision of travellers on the road.	X
Tasmania – DIER *(Note that criteria apply to temporary event advertising only as other sign types prohibited)*	✓ Electronic billboards are prohibited for advertising purposes.	✓ Flashing or animated signs, including those employing flashing lights, are prohibited.	X	X	X	X	~ The design and colouring of the sign must be simple and clear.	~ The sign must not conflict with the colour combinations of traffic signs.	~ The sign should not detract from the message of legitimate signs needed for the purposes of road safety, statutory control and guidance of road users. The message appearing on the signs must be clear and concise to ensure road users can interpret the message.	✓ Illuminated signs, or signs with retro-reflective materials, are prohibited.	✓ Maximum sign total area = 3.0 m^2. The sign must not conflict with the shape of traffic signs.

Sign design criteria	Movement	Flashing lights	Dwell time	Transition time	Message sequencing	Quantity of information	Information presentation	Colour	Information content/meaning	Luminance	Dimensions
Northern Territory – DCI *(Note that corporate 'product' advertising will not be approved on the road reserves, unless part of a tourist related sign)*	✓ Variable message displays and electronic signs will not be considered for private advertising purposes.	✓ Coloured or flashing lights may not be incorporated in any sign.	X	X	X	X	✓ Maximum height of lettering to be used in any worded legend is **130 mm**, and the minimum height of lettering shall be **80 mm**.	✓ The sign shall not be so designed as to bear resemblance to any traffic sign of a regulatory or warning nature. In particular, the colour scheme of black letters on a yellow background, red background with white or black lettering (similar to speed, stop, give way signs, and the like), shall not be used.	✓ For signs both within or visible from the NT Government road reserve, the sign shall not be so designed as to bear resemblance to any traffic sign of a regulatory or warning nature. Any symbols or wording that could be confused with or have a similar appearance to any regulatory or warning signs shall not be incorporated into any part of the sign or message.	~ If the sign face is manufactured partly or wholly with retro-reflective material, the design must be such that the night time appearance of the sign does not change significantly from the day time appearance. The back of the sign shall be a dull finish to prevent glare.	✓ The overall size of the freestanding sign shall not be in excess of 3.6 m wide by 1.8 m high.
Australian Capital Territory Government	✓ Animated signs generally not permitted (except within City Division).	✓ Flashing signs shall generally not be approved (except within City Division).	X	X	X	X	X	X	~ The Authority shall refuse to approve any sign which it considers offensive.	~ Signs illuminated by exposed lamps or neon tubes as distinct from backlighting or floodlighting, shall generally not be approved except where such signs are located on sites within the City Division. Advertising signs on bus shelters may be side illuminated. Illuminated signs attached to buildings must be located on ground storey level only. Advises that other sign types must not be highly reflective.	✓ Max size of freestanding signs located on business leases and other locations is 3 m^2 to 6 m^2 depending on location (except billboards at Canberra Int. Airport). Advertising signs may be displayed on bus shelters subject to the sign dimensions not exceeding **1.5 m by 1 m.** Canberra International Airport: Max. billboard advertising area = **12.66 m x 3.35 m** Max.gantry advertising area = **22.8 m x 2.6 m.**
Victoria – Dept. of Planning and Community Development/ VicRoads	✓ Policy that electronic variable message advertising signs should not display animated or moving images, but this can be overridden.	✓ Electronic variable message advertising signs with flashing or intermittent lights are viewed as a safety hazard.	✓ Any one display or set of graphics/text presented on electronic variable message advertising signs must remain static and unchanged for a minimum period of 30 secs.	X	X	X	X	✓ A sign is a safety hazard if the sign is likely to be mistaken for a traffic control device, because it contains red, green or yellow lighting, or has red circles, octagons, crosses, triangles or arrows.	~ A sign is a safety hazard if the sign could mislead drivers or be mistaken as an instruction to drivers.	✓ The luminance of electronic variable message advertising signs must be such that it does not give a veiling luminance to the driver of greater than **0.25 cd/m^2**, throughout the driver's approach to the advertising sign.	~ A sign is a safety hazard if the sign could distract drivers due to its size.

Sign design criteria	Movement	Flashing lights	Dwell time	Transition time	Message sequencing	Quantity of information	Information presentation	Colour	Information content/meaning	Luminance	Dimensions
Western Australia – MRWA	✓ Advertising devices within the boundaries of state-controlled roads shall not include Moving, Rotating or Variable Message Advertising Devices (with the exception of Trivision Signs). Moving Advertising Devices situated in the vicinity of highways and main roads are only permitted when movement within the device is about a vertical axis or axes (i.e. where the Moving Advertising Device is a Rotating Advertising Device) and where the speed environment is 70 km/h or less. Variable Message Advertising Devices are subject to the movement within a Moving-Single Message Display not occurring for continuous periods greater than **1.5 sec**.	✓ Flashing Illuminated Advertising Devices - the maximum flash rate permitted for devices visible from highways and main roads in Lighting Zone Environments 1 and 2 (city centre and suburban areas with high to moderate off-street ambient lighting levels) = **2 flashes/sec.** Lighting Zone Environment 3 (rural/ residential area with low off-street ambient lighting levels) = **0 flashes/sec.** The erection of Non-Static-Illuminated Advertising Devices within the boundaries of highways and main roads is prohibited, with the exception of Chasing Bulb and Scintillating Light Display Advertising Devices on premises adjacent to highways and main roads.	~ Trivision Signs erected within the boundaries of highways and main roads shall be controlled such that only a single display face should be viewed by motorists travelling at the nominated road speed environment.	✓ Variable Message Advertising Devices situated in the vicinity of a highways and main roads are subject to the Single Message Display being fully introduced within **1.5 secs**.	✓ Variable Message Advertising Devices situated in the vicinity of highways and main roads are subject to continuing themes (a series of Single Message Displays, including Moving Single Message Displays, presented sequentially) being completed within **1.5 secs**. Variable Message Advertising Devices situated in the vicinity of highways and main roads are subject to the movement of the content on one display not being, or not appearing to be, co-ordinated with the movement of the next display when a series of Moving Single Message Displays is presented sequentially. Election signs should be designed to display a whole message only. Signs which display segments of a whole message which are to be read sequentially in order to comprehend the whole message, are not permitted.	X	~ MRWA will consider general concepts in relation to legibility, including the relationship between legend height, sign content and speed environment (as discussed in NAASRA 1998 'Traffic Control Devices' document). Lettering used on banners should generally have a minimum height of **300 mm**. Lettering less than **200 mm** in height is unacceptable.	~ Colour combinations that could potentially result in an Advertising Device being mistaken for a traffic sign or a traffic control signal shall not be permitted.	✓ Considers a number of criteria relevant to message content (non-traffic focused). It is an offence to erect an advertising device that: • is a false representation of, or a colourable imitation of, a traffic sign or traffic-control signal; • not being a traffic sign, displays a word or direction ordinarily associated with a traffic sign.	✓ Max. average luminance for devices on state-controlled roads for different lighting environments: • Zone 1 (central city areas) = 500 cd/m² • Zone 2 (suburban areas) = 350 cd/m² • Zone 3 (rural /residential areas) = 300 cd/m² External illumination sources shall be shielded to ensure that external 'spot' light sources are not directed at approaching motorists. The erection of Non-Static-Illuminated Advertising Devices within the boundaries of highways and main roads is prohibited, with the exception of Chasing Bulb and Scintillating Light Display Advertising Devices on premises adjacent to highways and main roads). Category 3 (local business and community signs) should be non-illuminated. Election signs should be non- illuminated and not incorporate reflective or fluorescent materials.	✓ The size and shape of Advertising Devices erected within highways and main roads is restricted to accepted industry standards (details provided). Device attached to overhead structures shall be contained within the silhouette of the major portion of the overhead structure. The maximum size of individual Advertising Devices attached to bus passenger shelters and roadside seats shall be approximately 1.5 m². No part of an Advertising Device attached to a bus passenger shelter shall project beyond the highest part of the roof or the walls of the structure. Category 3 devices (local business/ community advertising) must generally be less than **4.5 m²** in size. Banners shall not be greater than **10 m** or less than **7 m** in length, and shall be 1 m in depth. Flags shall not be greater than **1.5 m** in height, with a maximum length of **2 m** with a minimum distance of **1 m** to the nearest kerb when the flag is fully extended. Real estate signs must be less than **0.25 m²** in size.

Sign design criteria	Movement	Flashing lights	Dwell time	Transition time	Message sequencing	Quantity of information	Information presentation	Colour	Information content/meaning	Luminance	Dimensions
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New South Wales – Dept. of Planning RTA[2]	VMS/moving signs that face the road reserve and are visible to drivers will only be approved if the display is completely static from its first appearance to the commencement of a change to another display. VMS will only be approved if the sign does not contain any scrolling messages (i.e. displayed text which moves up, down or across the screen so that a line of text or graphics appear at one edge of the screen for each line that moves off the opposite edge). Video and animated electronic signs, including any signs which contain any portion of video and/or animated content will not be approved if facing the road reserve and visible to drivers. According to the Safety Assessment Matrix for advertising on RTA infrastructure, a message is considered low risk (1–2 rating) if it is not animated/ changeable or remains static for at least **5 mins**. It is considered medium risk (3) rating if the message stays static for less than **5 mins**. Note: VMS not recommended for advertising in NSW.	Flashing illumination will not be approved.	Moving signs that face the road reserve and are visible to drivers will only be approved if the driver does not see more than one message in the period of exposure, under normal driving conditions.	VMS will only be approved if the time to change the display is not greater than 1 sec. According to the Safety Assessment Matrix for advertising on RTA infrastructure (provides a 1–5 risk rating, where 5 is more risk), the grounds for immediate rejection of an advertising proposal are if the advertisement provides a moving message that takes longer than 4 secs to completely appear (risk rating 5). According to the Safety Assessment Matrix for advertising on RTA infrastructure, a message is considered low risk (1–2 rating) if it is not animated/ changeable or changes instantaneously. It is considered medium risk (3) rating if the message takes 1–2 secs to transition.	The proposed advertising message should not spread the message across more than one adjoining sign.	The amount of information supplied on a sign should be minimised so that the time required to read and understand the message is minimised. As a guide, each sign should be restricted to 6 units of information. The summation of units is to be calculated as follows: Words of up to 8 letters, inclusive = **1 unit,** numbers up to **4** digits, inclusive = **0.5 unit,** numbers of 5-8 digits = **1 unit**, symbol/picture/logo or abbreviation = **0.5 unit**.	Advertisements should be legible. A clear font at least **150 mm** high is advisable. According to the Safety Assessment Matrix for advertising on RTA infrastructure (provides a 1–5 risk rating, where 5 is more risk), the grounds for immediate rejection of an advertisement proposal are if the advertisement imitates the colour, shape and legend of a traffic control device (risk rating 4) and the layout as well (risk rating 5).	Advertisements should not contain large areas of red display if they are to be illuminated. According to the Safety Assessment Matrix for advertising on RTA infrastructure (provides a 1–5 risk rating, where 5 is more risk), the grounds for immediate rejection of an advertisement proposal are if the advertisement imitates the colour, shape and legend of a traffic control device (risk rating 4) and the layout as well (risk rating 5).	Advertisements must not imitate a traffic control device such as traffic lights. Advertisements must not instruct drivers to perform an action such as 'Stop', 'Halt' or 'Give Way'. Advertisements must not invite traffic to move contrary to any traffic control device, or turn where there is fast moving traffic. Advertisements should not contain messages that are distractive or otherwise inconsistent with road safety. According to the Safety Assessment Matrix for advertising on RTA infrastructure (provides a 1–5 risk rating, where 5 is more risk), the grounds for immediate rejection of an advertising proposal are if the sign instructs motorists to perform an action (3 risk rating), if it instructs motorists to perform an illegal action (4 risk rating) or if it instructs motorists to perform a dangerous or illegal action (5 risk rating). According to the Safety Assessment Matrix for advertising on RTA infrastructure (provides a 1–5 risk rating, where 5 is more risk), an advertisement with complex (i.e. not easily recognisable) static message and graphic may be immediately rejected (risk rating 4). The light sources for illuminated signs must focus solely on the sign and i) be shielded so that glare does not extend beyond the sign and ii) with the exception	Guidelines include maximum allowable daytime luminance of illuminated advertisements categorised by illuminated area (m^2) and zone type (i.e. defined in relation to land use and ambient off-street lighting levels): • No limit for Zones 1 (city centre areas) and 5 (train corridors). • Range from **2900 cd/m²** for an area up to 0.5 m to **2900 cd/m²** for an area over 10 m in Zone 2 (major shopping/ commercial centres). • Range from **2000 cd/m²** for an area up to 0.5 m to **800 cd/m²** for an area over 10 m in Zone 3 (medium shopping/ commercial centres). • Range from **1000 cd/m²** for an area up to 0.5 m to **400 cd/m²** for an area over 10 m in Zone 4 (rural/residential). The maximum night-time luminance of signs must be 1/4 of the daytime prescribed values. For night time use, the sign (whether internally illuminated or lit from its exterior) must not cast a shadow on areas that were previously lit and that have a special lighting requirement, i.e. pedestrian crossings.	Advertising on bridges must not exceed **42.4 m²** in area. The actual sign dimensions should be determined by the design lines of the bridge and should not be dictated by industry standard (i.e. supersites – 12.66 m x 3.35 m). According to the Safety Assessment Matrix for advertising on RTA infrastructure (provides a 1–5 risk rating, where 5 is more risk), the grounds for immediate rejection of an advertisement proposal are if the advertisement imitates the colour, shape and legend of a traffic control device (risk rating 4) and the layout as well (risk rating 5).

Sign design criteria	Movement	Flashing lights	Dwell time	Transition time	Message sequencing	Quantity of information	Information presentation	Colour	Information content/meaning	Luminance	Dimensions
New South Wales – Dept. of Planning RTA[2] (cont.)									of back lit neon signs, have no light source visible to passing motorists with a light output greater than that of a 65 W incandescent bulb. The level of reflectance of an advertisement and its content is not to exceed the Minimum Coefficients of Luminous intensity per unit area for Class 2A Material (Australian Standard AS/NZS 1906:1:2007). Advertisements must not contain reflectors, which at night could be mistaken for a traffic control device. According to the Safety Assessment Matrix for advertising on RTA infrastructure (provides a 1–5 risk rating, where 5 is more risk), the grounds for immediate rejection are if the sign does not vary to match the ambient light and may cause discomfort or temporary night blindness.		

Sign design criteria	Movement	Flashing lights	Dwell time	Transition time	Message sequencing	Quantity of information	Information presentation	Colour	Information content/meaning	Luminance	Dimensions
New Zealand – NZTA	✓ Animated or flashing signs should not be used as roadside advertising if they: • incorporate a revolving light of any colour • rotate as a whole about any axis other than a vertical one. Proposals to install variable message signs should be carefully assessed where each separate display is not static from first appearance to replacement.	✓ Animated or flashing signs should not be used as roadside advertising if they incorporate a revolving light of any colour. Advertising signs which move or give the appearance of motion (e.g. by use of sequentially flashing lights) or that include lights or light sources which flash, revolve, move or vary in intensity are unlikely to be considered acceptable. Flashing lights cannot be used on vehicles to promote vehicle-mounted advertising as stated in clause 8.5 of the Road User Rule 2004.	✓ Proposals to erect variable message signs should be carefully assessed where the minimum time for any separate display is less than **5 secs**.	✓ Proposals to erect variable message signs should be carefully assessed where the time to change from one display to the next is greater than **2 secs**.	X	✓ Animated or flashing signs should not be used as roadside advertising if the message is more complex than a single word, logo or symbol displayed in any direction at one time. Signs should have a maximum of **6** words and/or symbols, with a maximum of **40** characters.	✓ Signs should have a minimum lettering height of **120 mm** where the speed limit is lower than 70 km/h, or **160 mm** where the speed limit is 70 km/h or higher. Guidance provided on use of fonts i.e. Helvetica and Transport Medium considered good examples. Atlas and Baroque script are considered undesirable. Also discusses letter hierarchy, sign background and message contrast. Suggest the message on a sign should take up no more than **40%** of the total sign area in commercial or industrial areas where there other competing signs, and **60%** in rural / residential areas with few other signs.	✓ An advertising sign or device should not be displayed or constructed where visible from a roadway if it: • is coloured red, green, orange, white or yellow in combinations of colours and/or shapes which may be mistaken for a traffic control device • has red, green, orange, white or yellow in isolation or in combinations of colours and in a location where it is likely to form the foreground or background to or appear alongside a traffic control device of similar colour when viewed by approaching motorists • contains large areas of red, green or orange display on illuminated signs which at night are likely to cause confusion with traffic control signals or stop or tail lights of vehicles.	✓ Advertising signs should not: • imitate traffic signs • give instructions to motorists that conflict with any traffic sign or traffic control device • compete with existing direction signs • in the case of a sign inviting motorists to turn, be located so close to the turning point that motorists have insufficient time to read the sign, signal and turn safely.	✓ All portable roadside advertising devices (including sandwich boards, vehicle-mounted signs, flags, banners and spinner) should not have any form of illumination or reflectorisation. Any advertising signs or devices which are internally or externally illuminated should: • comply with the maximum luminances stated below • have all floodlights or concealed lighting directed solely on to the advertisement and its surrounds • have any light source shielded so that glare does not extend beyond the advertisement • with the exception of neon signs, have no light source visible to passing motorists with a light output greater than that of a 65 W incandescent bulb. Maximum luminance of illuminated advertising devices (based on guidance from UK Institution of Lighting Engineers) – In areas with street lighting, the maximum luminance varies from 2000 cd/m² for illuminated areas up to 0.5 m2 to 800 cd/m² for areas over 10.0 m². In areas without street lighting, the maximum luminance varies from 1000 cd/m² for illuminated areas up to 0.5 m² to 400 cd/m² for areas over 10.0 m².	✓ State highway guidelines state that billboards must not be more than 6 m wide or 3 m high.

Sign design criteria	Movement	Flashing lights	Dwell time	Transition time	Message sequencing	Quantity of information	Information presentation	Colour	Information content/meaning	Luminance	Dimensions
OMA Recommendations (Refers to digital billboards only)	✓ Both static and animated digital billboards shall be considered for planning permits on their individual merits. Digital billboards shall contain a default design that will freeze the device in one position if a malfunction occurs.	X	✓ Each message shall remain fixed for a maximum of 8 secs, with 5–7 secs being the recommended dwell time depending on the sign's location (for example, signs with a dwell time of 5 secs would be appropriate in lower speed commercial environments, whereas 7 secs would be more appropriate on freeways and motorways).	✓ The transition time between messages shall be no longer than **1 sec** to reduce the likelihood of a driver perceiving any blanking of the display screen.	✓ No message sequencing is permitted between two or more advertising copies on the same digital billboard.	X	~ The OMA will develop guidelines for creative agencies to ensure that the amount of information displayed on a digital billboard is kept to a minimum.	✓ To avoid situations where the digital billboard may be mistaken as a traffic signal, the advertisement copy should not be dominated by the colours red, yellow or green in combination if it is to be located near traffic lights.	X	~ The light emitted from a digital billboard shall not exceed a certain threshold over ambient light levels. The OMA will consult with local lighting engineers on this matter to determine the most appropriate standard for local conditions. Digital billboards must have automatic dimming capability.	X

Sign design criteria	Movement	Flashing lights	Dwell time	Transition time	Message sequencing	Quantity of information	Information presentation	Colour	Information content/meaning	Luminance	Dimensions
SUMMARY	There is considerable variation in the policies of agency towards the approval of advertising devices which contain movement. Some jurisdictions have a complete ban on electronic billboards and VMS that are located within (or visible from) state-controlled roads. Some jurisdictions allow the latter devices but require that there is no animation or dynamic images (i.e. the message remains static until display of the next message). Queensland and Western Australia do not permit VMS or changeable signs within the boundaries of state-controlled roads, and only allow them to be visible from such roads where the speed limit is below 80 or 70 km/h respectively. These states do permit rotating devices within the boundaries of state-controlled roads provided they meet certain criteria.	All but two jurisdictions will not approve the use of flashing lights on advertising devices on or within visibility of state-controlled roads. In Queensland and Western Australia, flashing lights may be approved provided they meet specific criteria. This may include the colour of the lamps, the rate of flashing, the location of the sign relative to road speed and land use or the type of sign. The proposed acceptable rate of flashing is identical for both jurisdictions – two flashes per second in environments with high to moderate off-street ambient lighting levels, and zero flashes per second for environments with low off-street ambient lighting levels.	This criterion is not always covered in the guidance, presumably because some jurisdictions do not generally approve advertising devices that contain movement or changeable messages. Three jurisdictions indicate required or advisory minimum dwell times, ranging from 2.5 to 30 secs (also depending on sign type). The OMA recommends that the maximum dwell time for digital billboards should be 8 secs, with reduced times for lower speed environments. Two other jurisdictions require that the driver does not see more than one message in the period of exposure, under normal driving conditions.	This criterion is not always covered in the guidance, presumably because some jurisdictions do not generally approve advertising devices that contain movement or changeable messages. Four jurisdictions provided quantitative guidance on maximum transition times. Required times range from 0.1 to 4 seconds. Times are sometimes dependent on whether the device has an electronic display or is mechanically changed. The OMA recommends that the transition time for digital billboards should be under 1 second. Queensland advises that for electronic devices, the screen should change instantaneously.	This criterion is not always covered in the guidance, presumably because some jurisdictions do not generally approve advertising devices that contain movement or changeable messages. Where referenced, the general approach is that sequential messaging is not recommended or prohibited. Queensland and Western Australia provide more detailed guidance, with Queensland specifying that a maximum number of 3 sequential messages are permitted on VMS, or 2 in higher trafficked locations.	The majority of jurisdictions do not refer to this criterion explicitly. Only New South Wales and New Zealand provide quantitative restrictions on the number of information elements or words/symbols.	Legibility is recognised by over half of the jurisdictions as being significant for road safety. Four jurisdictions provide specific guidance on requirements for the presentation and format of information within the message. This mainly focuses on the minimum letter heights, which ranges from 80 mm to 200 m (also depending on sign type). New Zealand provides further guidance, for example, on appropriate fonts.	The large majority of jurisdictions will not approve advertising devices with a message that is coloured in such a way that they may be confused with an official traffic sign or signal. Queensland also provides guidance on requirements for background colouring of text-only VMS.	Nearly all jurisdictions will not allow advertising devices with a message that imitates a traffic control device, traffic sign or any other advisory or regulatory sign permitted by the road authority. For example, many jurisdictions require that the message does not provide instruction to drivers.	All jurisdictions refer to luminance/illumination in their guidance. A few jurisdictions have a ban on illuminated messages for specific types of advertising device. Some jurisdictions will not approve non-static illuminated devices within the boundaries of state roads. Four jurisdictions have provided quantitative guidance on permitted maximum luminance levels for zones with different ambient light conditions; the most stringent of these are in Queensland and Western Australia, where the maximum permitted luminance ranges from 300 to 500 cd/m^2 depending on the surrounding land use. Some jurisdictions also provide additional guidance on other relevant aspects such as veiling luminance and glare.	Many jurisdictions require that advertising areas and device dimensions are aligned with industry standards. It is also required that devices do not imitate the shape of a traffic control device or sign. The majority of jurisdictions provide specific guidance on acceptable dimensions and areas across different types of advertising device.

1 Now Department of Planning, Transport and Infrastructure (DPTI).
2 Now Roads and Maritime Services (RMS).

Table 7.3: Overview of jurisdiction and industry guidance for human factors criteria relating to sign placement (as at July 2010)

Sign placement criteria	Longitudinal placement	Lateral placement	Vertical placement	Orientation/viewing angle	Sight distance/visibility	Speed limit/speed environment	Other
Description	Covers restriction distances in relation to traffic control devices and driver decision and action points, as well as advertising device density constraints.	Covers location relative to edge of carriageway and off-set back from kerb etc.	Covers both maximum height of sign and overhead placement.	Includes requirements for rotation relative to the carriageway geometry and/or passing vehicles.	Covers restrictions in relation to sight distances and visibility of the advertising device as well as for other features of the roadside environment, including official traffic signs and control devices.	Covers restrictions on placement of certain types of advertising signs relative to speed limit or speed environment of road. The speed environment provides an indication of the operating speed of the road and is generally defined as the 85th percentile speed.	Any other relevant criteria, for example, restrictions in relation to surrounding land use and roadway geometry or criteria for vehicle-mounted advertising and double-sided signs.
Refer to section:	6.2.1 and 6.2.2	6.3.1	6.3.2	6.3.1	6.2 and 6.3	6.4	N/A
State guidelines							
Queensland – TMR	✓ An Advertising Device may be considered a traffic hazard if it: • is in an area where there are several devices and the cumulative effect of those devices may be potentially hazardous • it interferes with the effectiveness of a traffic control device (e.g. traffic light, stop or give way sign) • distracts a driver at a critical time (e.g. making a decision at an intersection). Appendix C – specifies Advertising Device restriction distances relative to designated traffic situations for devices located on state-controlled roads and devices beyond the boundary of, but visible from, state-controlled roads. This includes minimum distances between the device and traffic conflict points, official traffic signs and other advertising devices. States that further restrictions may apply where traffic conditions require additional driver attention and decision making, such as sections of road that have a vehicle crash history higher than the system average. Restriction distances for devices located within the boundaries of state-controlled roads (excluding freeways/motorways, only non-rotating, non-illuminated/static illuminated devices permitted) range from **60 m** to **140 m** depending on the speed environment.	✓ An advertising device may be considered a traffic hazard if it is a dangerous obstruction to road or other infrastructure, traffic, pedestrians, cyclists or other road users. For advertising devices located within the boundaries of state-controlled roads (except where road reserves are very narrow), lateral placement of the device is restricted to locations outside of the Clear Zone (defined in Appendix B of the guidance). The Clear Zone is defined as the total roadside border area, starting at the edge of the travelled way, available for safe use by errant vehicles and for the display of official traffic signs. Queensland has adopted the AASHTO 1996 Roadside Design Guide as the primary reference. Example calculations: Clear Zone for straight roads with flat roadsides is **4.5 m** for 60 km/h speed environments, **6 m** for 80 km/h speed environments and **9 m** for 100 km/h speed environments. Clear Zone requirements do not apply to devices attached to transport infrastructure including passenger transport shelters and seats and pedestrian overbridges. On roads where the overhead transport structure (e.g. road overpass or pedestrian/bicycle bridge) and the road 'intersect' at right angles, the advertising	✓ The minimum clearance beneath a device located on an awning within a state-controlled road is **2.5 m** Maximum heights: 6 sheet poster = **5 m** 12 sheet poster = **9 m** supersite = **10 m** (except where device is located in a depression). Maximum height of a device located on an awning within a state-controlled road reserve is **1 m** (with **2.5 m** clearance). The maximum height of a footway sign is **1 m**.	✓ Devices containing retro-reflective material shall be rotated approximately **5°** away from the normal line of vehicle headlight beams in order to minimise specular reflection.	✓ An advertising device may be considered a traffic hazard if it obscures a driver's view of a road hazard (e.g. at corners or bends in the road). Devices should not obstruct or distract a driver's line of sight of official traffic signs, exit ramps, on-ramps, intersections or other decision-making areas. Variable message advertising devices shall only be installed where: • the required sign viewing time does not result in a safety problem for the particular environment; and • there is adequate advance visibility to read the sign. The approach end of a passenger transport shelter shall be either open or transparent to provide waiting passengers with maximum visibility of the approaching passenger transport vehicle.	✓ Devices with changing illumination, variable messages or rotating/changing movement (i.e. Trivision) are not permitted to be located on, or visible from, state-controlled roads with speed limits 80 km/h or above (including motorways/freeways). Advertising devices that change, move or rotate (including Trivision advertising devices) are only permitted on private property and visible from a state-controlled road with a speed limit of less than 80 km/h. VMS advertising devices are only permitted on private property and visible from a state-controlled road with a speed limit of less than 80 km/h. Rotating devices should be permitted only when movement is about a vertical axis and where the speed environment is 80 km/h or less. Non-rotating, static illuminated advertising devices shall only be permitted on bus shelters located in built-up areas with speed environments of 80 km/h or lower. Advertising on bus shelters is not permitted on motorways or freeways.	Official road furniture such as official signs and delineator guide posts shall not be used as the supporting structure of an advertising device without prior written permission. Variable message advertising devices should only be installed where the device is not a moving advertising device. On-vehicle advertising for roadside vending shall be directed only toward oncoming vehicles on the same side of the road as the vendor. An approval for vehicle-mounted advertising for a roadside vending site does not imply that this advertising would be permitted when the vehicle was driven on any road. There are certain areas where advertising may be inappropriate due to the nature of the surrounding area. For example, advertising is generally not permitted within the boundaries of state-controlled roads in national parks or other protected areas.

Sign placement criteria	Longitudinal placement	Lateral placement	Vertical placement	Orientation/viewing angle	Sight distance/visibility	Speed limit/speed environment	Other
Queensland – TMR (cont.)	Restriction distances for devices beyond the boundaries of but visible from state-controlled roads (excluding freeways/motorways) vary between **60 m** and **160 m** depending on the sign type, characteristics such as size and speed environment. For example, restriction distances for variable message signs are **120 m** for signs over 20 m^2 and **80 m** for signs under 20 m^2 for locations where the speed limit is less than 80 km/h and with a dwell time of greater than or equal to 8 seconds. Advertising device longitudinal exclusion zones are also detailed for motorways/freeways (in some cases based on the methodology outlined in the Austroads Guide to Traffic Engineering). Exclusion zone relative to official traffic signs = **1.2 V / 2.5 V** (where v = speed). Advance/downstream separation distance from motorway exit ramp = **7.5 V / 2.5 V.** Advance / downstream separation distance from motorway on-ramp = **5 V / 2.5 V.** Longitudinal separation distance from other advertising devices on motorways = **2.5 V / 10V.** Maximum of **two** Advertising Devices (faces) are permitted to be attached to, or form part of, a passenger transport shelter.	device may only be installed directly above the traffic at which the advertising device is directed. In situations where the overhead transport structure of the traversed road is curved or does not 'intersect' at right angles, the position of the installation shall be determined by the Department. Advertising is not permitted in the medians or traffic islands (unless the carriageways diverge significantly as a result of topography or dense vegetation). For Category 4 (miscellaneous including local business / community signs), no portion of an advertising device should project over the carriageway or over any surface used by motor vehicles (taking cross-fall into account).					
South Australia – DTEI[1] *(Note that guidelines generally apply to advertising in incorporated areas only – advertising is not generally permitted in unincorporated areas)*	~ No advertising display shall be allowed to be placed or maintained if the displays which are placed interfere with the effectiveness of, or obscure any official traffic control sign, device or signal. Internally illuminated signs should not be immediately behind or alongside traffic signals in such a way as to diminish the target value of the signals for drivers (see Operational Instruction 2.19).	~ The display shall not infringe upon the recommended clear zone for errant vehicles. [Note: *no definition or method of determining clear zone is provided in the guidance document*].	X	X	~ No advertising display shall be allowed to be placed or maintained if the display obstructs, or interferes, with the drivers vision in approaching, merging or intersecting traffic. No advertising display shall be allowed to be placed or maintained if the displays which are placed interfere with the effectiveness of, or obscure any official traffic control sign, device or signal. An advertising display can be removed under Section 41 of the Highways Act if the advertising display restricts drivers' sight distance, or completely obscures any DTEI sign.	~ Advertising displays placed within the 100–80–60 km/h buffer zones on the approaches to towns should be actively discouraged as drivers may not notice the lower speed signs due to the large number of signs competing for drivers' attention. Advertising signs are generally not allowed on DTEI arterial roads and highways.	The display shall not be placed on the same post as a DTEI traffic control sign. No advertising display shall be allowed to be placed or maintained if visible from the road and which is placed upon trees, or painted or drawn upon rocks or other natural features.

Sign placement criteria	Longitudinal placement	Lateral placement	Vertical placement	Orientation/viewing angle	Sight distance/visibility	Speed limit/speed environment	Other
Tasmania – DIER *(Note criteria apply to temporary event advertising only as other types banned on state roads)*	~ The consenting authority must give consideration to the number of competing signs in the area. The sign should not obstruct or form a confusing background to traffic signs or signals.	✓ Sites for the location of temporary event signs should be chosen so that the sign is no closer than **1 m** from the outside edge of the gravel shoulder or **3 m** from the sealed road surface, whichever is greater.	X	✓ The sign shall be erected at right angles to the roadway but angled off the direction of the traffic by approximately **5°** to reduce headlight glare reflecting back into the motorist's vision.	~ The sign should not obstruct a driver's or pedestrian's view of the road or of other road users. The sign should not obstruct or form a confusing background to traffic signs or signals.	✓ Advertising signs are not permitted on a State or Local Government Road reserve subject to a speed limit in excess of 60 km/h.	
Northern Territory – DCI *(Note that corporate 'product' advertising will not be approved on state road reserves, unless part of a tourist related sign)*	✓ Signs shall not be erected so as to obscure or interfere with any guide sign, information sign, service sign or regulatory sign. No signs may be erected within a radius of **150 m** of any intersection of public roads, railway crossing or school. Signs shall not be erected on any section of road for which signs have been erected to warn motorists of potential hazards in such locations so as to detract from the effectiveness of the warning signs, e.g. near sharp curves or narrow bridges.	✓ Reduce likelihood of advertising devices creating obstacles by maintaining adequate lateral clearance between the through traffic lanes and the advertising device, other than portable roadside advertising. 'Adequate lateral clearance' can generally be taken to mean: • more than 1.5 m from the vehicle carriageway on roads with operating speeds of 60 km/h or less • more than 3 m from the vehicle carriageway on roads with operating speeds greater than 60 km/h. Signs may not be erected within 10 m of the edge of the nearest travelled lane of a sealed roadway, nor within 15 m of the centre line of an unsealed roadway.	✓ The overall size of freestanding signs shall not be in excess of 1.8 m high.	✓ Proposed signs shall be orientated at right angles to and facing the oncoming traffic. If the sign face is manufactured partly or wholly with retro-reflective material, a 5° deflection away from the normal is required to eliminate reflection from car headlights.	~ Signs shall not be erected so as to obscure or interfere with any guide sign, information sign, service sign or regulatory sign.	~ Private advertising signs will not be permitted on defined urban roads, and only on rural roads in accordance with the conditions established in the guidelines. Defined urban roads includes roads adjoining urban development in minor urban centres, and on approach roads with designated town speed zones.	Private advertising signs will not be permitted on defined urban roads, and only on rural roads in accordance with the conditions established in the guidelines. Defined urban roads includes roads designated within and adjacent to major urban municipalities: a. Darwin and Palmerston b. Katherine c. Tennant Creek d. Alice Springs Signs to be located clear of vegetation and be clearly visible under headlight illumination. In general, double-sided signs are not permitted. However, consideration will be given to individual cases where double-sided signs may be of significant advantage to the traveling public and/or are proposed in lieu of two separate locations.
Australian Capital Territory Government *(Note that only applies to specific sign types advertising local events, real estate or government agency flags/banners, as other commercial roadside signs are not permitted in road reserves)*	✓ Freestanding signs may be approved on business leases and on sites for recreational, institutional, educational or other similar purposes provided that unnecessary repetition or multiplicity is avoided – **one** freestanding sign per site permitted. One advertising sign permitted per bus shelter. Real estate roadside signs and community roadside signs must be located further than **20 m** from a road intersection. Moveable signs may be placed on unleashed Territory Land subject to them not being placed: • on roundabouts • within **20 m** of traffic lights • within **20 m** of the apex of the kerb lines at an intersection (real estate directional signs exempt) • traffic lights or street lights.	✓ The placement of moveable signs must be a minimum of **1.2 m** back from the the street kerb to allow persons free access when alighting from a vehicle. In commercial areas, pedestrians must have access to a minimum of a **2.5 m** wide walkway free of moveable signs or other obstructions, in addition to the **1.2 m** back from the top of the street kerb. The walkway should allow pedestrians to walk either in a straight line or in a line which follows the street contour. Generally, devices are not permitted in the median of the road reserve. Moveable signs must not encroach on to or cause an obstruction on pedestrian or bicycle footpaths.	✓ Freestanding signs may be approved on business leases provided maximum height is **4 m** (residential neighbourhoods) and **6 m** in other locations. Freestanding signs may be approved on sites for recreational, institutional, educational and other similar purposes provided maximum height is **4 m**.	X	X	X	Billboards are not permitted on unleased land in the Designated Areas. Many sign types are banned from Main Avenues and Approach Routes. Advertising signs displayed on bus shelters are not permitted in ANZAC Parade or on bus shelters in Commonwealth, Kings and Constitution Avenues or the area bounded by these Avenues. Moveable business signs must not be placed outside of the boundaries of the commercial or industrial centre in which the business is operating.

Sign placement criteria	Longitudinal placement	Lateral placement	Vertical placement	Orientation/viewing angle	Sight distance/visibility	Speed limit/speed environment	Other
Victoria – Dept. of Planning & Community Development/ VicRoads	✓ A sign is a safety hazard if the sign is at a location where particular concentration is required, such as a high pedestrian volume intersection. A sign is a safety hazard if the sign is within **100 m** of a rural railway crossing. A sign is a safety hazard if the sign invites drivers to turn where there is fast moving traffic or the sign is so close to the turning point that there is no time to signal and turn safely. In business, office and industrial areas (sign Categories 1 and 2) internally illuminated signs are only permitted if the sign is more than **30 m** from a residential zone or pedestrian or traffic lights.	– A sign is a safety hazard if the sign has insufficient clearance from vehicles on the carriageway.	✓ For Categories 1 and 2 (advertising devices in business areas / office and industrial areas), internally illuminated signs are only permitted without a permit if no part of a sign is above a veranda or, if on veranda, more than **3.7 m** above pavement level.	X	✓ A sign is a safety hazard if the sign obstructs a driver's view of a traffic control device, or is likely to create a confusing or dominating background which might reduce the clarity or effectiveness of a traffic control device. A sign is a safety hazard if the sign obstructs a driver's line of sight at an intersection, curve or point of egress from an adjacent property.	✓ Electronic variable advertising messaging signs must not be located near, or be visible from, a freeway environment.	A sign is a safety hazard if the sign requires close study from a moving or stationary vehicle in a location where the vehicle would be unprotected from passing traffic. Major promotion signs are discouraged along forest and tourist roads, scenic routes, landscaped sections of freeways, within open space reserves or corridors and around waterways. Major promotion signs are discouraged where they will form a dominant visual element from residential areas, within a heritage place or where they will obstruct significant viewlines.
Western Australia – MRWA	✓ It is important that drivers are not distracted in the proximity of designated traffic situations, to allow concentration to be focussed on the driving task. A designated traffic situation includes areas in which merging, diverging and weaving traffic manoeuvres take place, 'unsignalised' railway level crossings, road intersections and driver decision areas in the vicinity of an 'important' traffic sign or a traffic control signal. Australian Standard AS 1742.2 - 1994 Manual of Uniform Traffic Control Devices has been adopted as the primary reference for the determination of the longitudinal placement of signs located within the vicinity of a highway or main road. The minimum spacing of at least **1.2 Vm** should be applied to the distances from designated traffic situations and a traffic sign or a traffic control signal and to other Advertising Devices, which are specified in this Guide. Device restriction distances for devices located on highways and main roads are outlined in Appendix C. These distances are the absolute minimum and requirements may be greater at locations where longer traffic queues occur, or where the proposed device obstructs sight lines at an intersection or zebra crossing. The minimum distances for devices located on a highway or main road range from **80 m** in a 60 km/h speed	✓ Lateral placement controls apply to large freestanding advertising devices within the boundaries of state-controlled roads and are in the form of a Clear Zone. The Clear Zone is the total roadside border, starting at the edge of the travelled way, available for use by errant vehicles and for the display of official traffic signs. Appendix B of the guidance describes the method of determining the width of the Clear Zone. It is based on a concept outlined in the AASHTO 1989 document titled 'Roadside Design Guide', and adapted to align with typical Australian practice. Example calculations: For straight roads with flat roadsides, the Clear Zone is **4.5 m, 6 m, 9 m and 11 m** wide for speed environments of 60, 80, 100 and 110 km/h respectively. Clear zone requirements do not apply for devices attached to transport infrastructure such as bus passenger shelters and seats, overhead road bridges and pedestrian overbridges. Advertising devices, other than flags and vertical banners, will not be permitted within medians less than 50 m wide. Where the median is 50 m or greater in width, the carriageways carrying opposing traffic will be considered as separate roads.	✓ The minimum clearance beneath category 1 devices (billboards and trivision signs) is **2.2 m**, except where the structure overhangs a footway, in which case a minimum clearance of **2.5 m** shall apply. Category 2 devices (static-illuminated devices on street name posts only): (a) The maximum height of the device including all attachments shall be **6.2 m**. (b) The minimum clearance beneath the device (including the street name portion of the sign) shall be **2.2 m** except where the device is over a footway when the minimum clearance shall be **2. 5m**. Category 3 devices (small devices intended for local business and local community advertising): (a) The minimum clearance beneath overhead devices shall be **2.2 m** except where the structure overhangs a footway the minimum clearance shall be **2.5 m**. (b) No portion of a device shall project over the carriageway or any surface used by road vehicles except that the minimum vertical clearance between a horizontal banner and the roadway below shall be **5.4 m**.	✓ Devices containing retro-reflective material shall be rotated approximately **5%** away from the normal to the alignment of the vehicle headlight beams in order to eliminate specular reflection.	✓ Sightline assessment procedures have been established to ensure that advertising signs: a) are offset far enough from the driver's sightline to give the driver a clear view of traffic control devices b) do not form a confusing background to traffic control devices c) do not obstruct sightlines of drivers entering or exiting a highway or main road from a side road or driveway. Appendix G describes the sightline assessment procedure to be followed for (a) and (b) above where an advertising device is located near a traffic control device in the following cases: Case 1 – At an intersection Case 2 – Between intersections Case 3 – Near a railway level crossing with boom gates Case 4 – Near a railway level crossing without boom gates. The guidelines also describe the sightline assessment procedure to be followed for (c) above to ensure that an advertising sign which is located at or near an intersection, driveway, median opening or, the exit point of a parking bay, information bay or rest area does not obstruct the sightline of drivers on the side road or driveway to other vehicles travelling on a highway or main road in the following cases: Case 5 – Entering or exiting a highway or main road from a side road or	✓ VMS and moving advertising devices situated in the vicinity of highways and main roads are only permitted when movement within the device is about a vertical axis or axes (i e. where the Moving Advertising Device is a Rotating Advertising Device) and where the speed environment is 70 km/h or less. Non-Rotating and Static-Illuminated Advertising Devices shall only be permitted on shelters located in built-up areas with speed environments less than or equal to 80 km/h. Category 3 advertising devices (small devices intended for local business and local community advertising) shall not be allowed on freeways and future freeways unless specifically permitted. Devices beyond the boundaries of, but visible from, Kwinana and Mitchell Freeways, Reid, Roe and Tonkin Highways and Great Eastern Highway Bypass and also future freeways and roads of a similar nature are limited to Non-Rotating Static-Illuminated, Non-Rotating Non-Illuminated and Trivision Sign formats only.	Category 1 signs (billboards and trivision signs) can only be placed on declared highways and main roads in accordance with the schedule of permitted roads at Appendix H. Category 3 devices (static illuminated street name signs) shall be permitted at illuminated intersections only. They shall be erected as near as is practical to the intersection. They shall generally only be permitted to be installed on the verge of the road or on medians 40 m or greater in width. Devices shall not be permitted on traffic islands or on roundabouts. Category 3 devices (small local business and community signs) located outside of the Metropolitan region will : a) only be considered within a 5 km radius of rural towns and settlements. Outside the 5 km radius of each rural town, advertising will only be permitted for a local business on a highway or main road adjacent to that local business b) be permitted on a main road or highway if the business is on a road adjoining a main road or a highway, as long as the business is within a 10 km radius of the proposed advertising device c) be permitted within the road reserve if signing attached to property cannot be seen by passing motorists. One sign can also be installed on each approach to the business subject to agreement of both the owner and the lessee of any

Sign placement criteria	Longitudinal placement	Lateral placement	Vertical placement	Orientation/viewing angle	Sight distance/visibility	Speed limit/speed environment	Other
Western Australia – MRWA (cont.)	environment to **140 m** in >100 km/h speed environment. In a 80km/h speed environment, the restriction distance is **100 m.** The device restriction distance for devices located in the vicinity of highways and main roads ranges between **80 m** and **140 m** depending on the device characteristics and speed environment. Large freestanding billboards and trivision signs shall be longitudinally separated from other Advertising Devices within the boundaries of highways and main roads at Main Roads discretion. Typical controls include limitation of the spacing (density) as follows: • Devices > 10 m² shall be located so that only **one** single device is visible at any one time. • Devices having an area of 4.5 to 10 m² shall be located no closer than **500 m** apart. • Devices must also be clear of locations where drivers have to make decisions such as on and off-ramps, merging areas, where the number of lanes increases or decreases or in lane-changing areas. • Category 1 signs (large freestanding devices and devices attached to bridges are not permitted within **500 m** of the start or finish of a merging zone. • Overhead bridges under Main Roads control by a distance of not less than **500 m**. • Planned road improvements such as proposed on and off ramps to and from future interchanges. • All adjacent Category 2, 3 and 4 advertising devices and traffic control devices by a distance of at least **2.5 Vm**.				driveway. Case 6 – Exiting side road driveways close to intersections on highways and main roads. In general, the advertising sign is acceptable if it is at or beyond the end of the appropriate extended sightline.		business fronting the sign installation, being obtained in writing.

Sign placement criteria	Longitudinal placement	Lateral placement	Vertical placement	Orientation/viewing angle	Sight distance/visibility	Speed limit/speed environment	Other
	✓	✓	✓	✓	✓	✓	
New South Wales – Dept. of Planning/RTA[2]	Multiple advertisement signs in rural or natural areas or along freeways or tollways adversely impacts on visual amenity and road safety. The overall number of signs placed along a transport corridor should be minimised preferably with only **one** advertising sign visible in a given view. In assessing advertising proposals, the consent authority is to have regard to: (a) Multiple advertisements on a single block of land, structure or building should be discouraged as they contribute to visual clutter. (b) Where there is advertising clutter, consideration should be given to reducing the overall number of individual advertisements on a site. Replacement of many small signs with a larger single sign is encouraged if the overall advertising display area is not increased. (c) In rural areas, and along freeways and tollways, no more than one advertising structure should be visible along a given sightline. An advertising proposal may be considered a traffic hazard if it interferes with the effectiveness of a traffic control device, or if it distracts the driver at a critical time. According to the Safety Assessment Matrix for signs on RTA infrastructure, (provides a 1-5 risk rating, where 5 is more risk), the grounds for immediate rejection of an advertising proposal are if the sign is located less than 100 m upstream from a decision point (4 risk rating) or if the sign is located at a significant decision/manoeuvre point (5 risk rating). Furthermore, a proposal can be rejected if it may/does reduce the effectiveness of a class #2 or #3 traffic control device.	The advertisement must not create a physical obstruction or hazard to road users or vehicles. The location of a sign on footpaths or nature strips must meet the following criteria to ensure adequate clearance for pedestrian and wheel chair access: • A sign must be positioned so that an absolute minimum envelope of 0.9 m x 2 m of unobstructed clear path of travel is maintained for the entire length of the advertising structure. • Where the sign supports are not frangible (breakable) the sign must be placed outside the clear zone as defined in Section 3.7 of the RTA's Road Design Guide (2011) or behind an RTA-approved crash barrier. Clear Zone is defined as the total roadside border area, starting at the edge of the travelled way, available for use by errant vehicles and the display of traffic control signs. • Where a sign is proposed within the Clear Zone but behind an existing RTA-approved crash barrier, all its structures up to 5.3 m in height (relative to road level) are to comply with lateral clearances as specified by Section 6 of the RTA's Road Design Guide (2011) with respect to dynamic deflection and working width.	The advertisement must not create a physical obstruction or hazard. Where advertising structures hang over the road, the minimum vertical clearance should be the same as other structures in that road environment (i.e. equal or greater clearance than the overpass, tunnel portal or pedestrian bridge). However, in cases where these structures exceed the minimum vertical clearance specified for the particular type of road, the sign may protrude below the bridge or other structure. If the minimum vertical clearance for other surrounding structures is not known then a minimum vertical clearance of 5.3 m is to be used for the sign structure. However, on high performance motorways, the minimum clearance may be 5.8 m or more. Wall advertisement only permitted if, for a building having: (i) an above ground elevation of 200 m^2 or more the advertisement does not exceed 10% of the above ground elevation, and (ii) an above ground elevation of more than 100 m^2 but less than 200 m^2 the advertisement does not exceed 20 m^2 (iii) an above-ground elevation of 100 m^2 or less the advertisement does not exceed 20% of the above-ground elevation.	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 the component view. ii) The sign should be orientated in a manner that does not create headlight reflections in the drivers line of sight. As a guideline, angling a sign 5° away from the right angles to the driver's line of sight can minimise headlight 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.	An advertisement must not obstruct the driver's view of the road particularly of other vehicles, bicycle riders or pedestrians at crossings. 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) to a road hazard ii) to an intersection iii) to a traffic control device (signals/stop or give way/ warning signs) iv) to an emergency vehicle access point or Type 2 driveways (wider than 6–9 m) or higher. The advertisement must not distract a driver from or reduce the visibility and effectiveness of directional signs, traffic signals, other traffic control devices, regulatory signs or advisory signs, or obscure information about the road alignment. The advertisement must not interfere with stopping sight distance for the road's design speed or the effectiveness of a traffic control device. A sign should not be located: i) less than the safe sight distance from an intersection, merge point, exit ramp, traffic control signal or sharp curves ii) less than the safe stopping sight distance from a marked foot crossing, pedestrian crossing or refuge, cycle crossing or cycle facility or hazard within road environment iii) so that it is visible from the stem of a T-intersection. The minimum sight distance requirements for the design speed of the road must be met for road hazards (stopping sight distance), emergency vehicle access points and driveways (approach sight distance) and intersections (safe intersection sight distance). See RTA Road Design Guide for sight distances. An advertisement must not obstruct a pedestrian or cyclist's view of the road. Advertisements on bridges should not block significant views for pedestrians or other bridge users (e.g. cyclists) and not create a tunnel effect, impede passive surveillance or in any other way reduce safety for drivers, pedestrians or bridge users.	VMS and moving signs that face the road reserve and are visible to drivers will only be approved if the speed limit of the road is not greater than 70 km/h.	As a guideline, advertising in urban areas should be restricted to rail corridors, freeways, tollways or classified roads: (a) within or adjacent to strategic transport corridors passing through enterprise zones, business development zones, commercial core zones, mixed use zones or industrial zones, or (b) within or adjacent to strategic transport corridors passing through entertainment districts or other urban locations identified by the local council in a relevant strategy as being appropriate for such advertising. The RTA will not allow advertising on guide signs, regulatory signs, warning signs, variable message signs or on structures that already have guide signs attached. In the case of advertising on bridges, no advertising signs will be permitted on bridge approaches that already display RTA guidelines. Only one advertising sign will be permitted on each approach to a bridge. The advertisement should not be located in a position that has the potential to give incorrect information on the alignment of the road (i.e. location/alignment of sign should not give visual clues to the driver suggesting that the road alignment is different to the actual alignment).

Sign placement criteria	Longitudinal placement	Lateral placement	Vertical placement	Orientation/viewing angle	Sight distance/visibility	Speed limit/speed environment	Other
New South Wales – Dept. of Planning/RTA[2]					According to the Safety Assessment Matrix for advertising on RTA infrastructure (which provides a 1–5 risk rating, where 5 is more risk), the grounds for immediate rejection of an advertising proposal are if the advertisement partly obscures a road hazard and provides no warning that a hazard exists (4 risk rating) or completely obscures a serious road hazard (5 risk rating).		
New Zealand – NZTA	✓ Advertising signs should not be located within **100 m and 200 m** in urban and rural areas respectively of: • intersections • permanent regulatory or warning signs • curves (with chevron signing) • pedestrian crossings. Advertising signs should not, in the case of a sign inviting motorists to turn, be located so close to the turning point that motorists have insufficient time to read the sign, signal and turn safely. The effectiveness of roadside advertising and also traffic safety will be compromised if there are too many advertising displays on the roadside. In situations where they are permitted, off-site advertising signs visible from roadways should be erected at the maximum spacings possible to ensure that passing motorists have a chance to assimilate such signs if they so desire. Appendix 2.7 provides minimum distances between adjacent advertising signs, based on figures taken from NAASRA. These are the recommended minimum distances between successive traffic warning signs with different messages - desirable minima are based on recommended distances between signs requiring decisions. Recommended minimum spacing ranges from **50 m** on roads with operating speed of 60 km/h to **80 m** on roads with an operating speed of 115 km/h. Desirable spacings range from **80 m** on roads with an operating speed of 60 km/h to **250 m** on roads with an operating speed of 115km/h. Wherever possible, billboards should not be placed at an intersection. As a general rule, billboards should be placed at least **50 m** from an	✓ Lateral clearance distances are controlled by a number of different factors: • whether the sign is allowed within the road reserve • whether appropriate clear zone requirements are met (refer to Traffic Control Devices Manual Part 1) • whether the sign can be seen within the driver's field of vision. Advertising signs and markings should not be permitted on the vehicle carriageway, on any traffic island or extended kerb line within the vehicle carriageway. Minimum lateral clearance distance between an advertising sign and the edge of the carriageway for roads with a speed limit of 60 km/h or less should be **1.5 m**. This minimum distance increases to **3 m** for roads with a speed limit greater than 60 km/h. For state highways, the NTZA requires signs to not be located closer than **5 m** from the edge of the carriageway. No advertising sign or device, whether temporary or permanent, should be located on or above a footpath or berm closer than **0.5 m** to the kerb face or the edge of the vehicle carriageway. Where footpath-mounted advertising is allowed by local authorities the recommended conditions applicable to their use include the sign should not reduce the width of any footpath or other pedestrian way useable by pedestrians to less than **2 m**.	✓ In locations where the signs are installed above an area used by pedestrians such as footpaths, the recommended minimum vertical clearance is **2.5 m** with an absolute minimum of **2.1 m**. Signs or banners over the roadway should have a minimum vertical clearance of **5.5 m** (this does not apply to signs mounted on bridges where the absolute minimum clearance is **4.9 m**). In general, visibility problems will not be caused by signs or devices which are: • less than 1 m in height, except where they are likely to obscure children • the bottom of the sign is more than 3 m above the level of the roadway.	– The sign must be at right angles to the state highway and positioned to avoid vehicle headlight reflection. The location, orientation and design of advertising signs in relation to the road should be assessed to ensure advertising signs can be read without a motorist having to slow down or stop their vehicle.	✓ Roadside advertising may create restrictions to sight visibility and create a safety hazard if it obstructs or interferes with: • road users' view of a road hazard, person or oncoming vehicle on the roadway • road users' view of a person or vehicle about to enter the roadway. The sign must not obscure driver visibility at accesses or intersections. Signs should be placed as close as possible to drivers' lines of sight while maintaining the lateral clearances from the roadway. Safe intersection sight distances are defined, ranging from **96 m** for 50 km/h roads to **253 m** for 100 km/h roads. For 70 km/h roads, the recommended distance is **149 m**. The distances relate to the absolute and desirable sight distances along the major road from 5 m (3 m minimum) back from the major road. Corrections should be made where gradient is greater than 2%. The sign must be located so there is an unrestricted view to the motorist for a minimum distance of **180 m** where the speed limit is 70 km/h or higher. Some of the more common situations where there is potential for visibility problems include: • vehicle-mounted signs • portable signs placed on footpaths, shoulders or grass berms • signs adjacent to driveways particularly of major traffic generators, e.g. service stations • signs close to intersections or curves in the roadway.	✓ Animated or flashing signs should not be used for roadside advertising if the operating speed of passing traffic is 70 km/h or greater. Billboards must not be placed on or over motorways. To avoid excessive clutter of roadside advertising signs, it is recommended that territorial authorities and road controlling authorities restrict the erection of off-site advertising. Consenting authorities should provide for such situations in areas with speed limits of 70 km/h or more. Animated or flashing signs should not be used as roadside advertising if the operating speed of the passing traffic is 70 km/h or greater.	Where applicable, the sign must be located on the site to which the sign relates and must be placed to ensure there is only one advertising sign located on or adjacent to the property to which it relates. The recommendation of this guideline is that local authorities discourage the use of aerial displays in all forms.

Sign placement criteria	Longitudinal placement	Lateral placement	Vertical placement	Orientation/viewing angle	Sight distance/visibility	Speed limit/speed environment	Other
New Zealand – NZTA (cont.)	intersection; however, this is not always possible in an urban environment.						
OMA Recommendations (See digital billboards only)	✓ Digital billboards should be spaced within 150 linear metres of each other if they are located on the same side of the road on a freeway or motorway only. This is based on standards adopted by a majority of states in the USA and is relatively consistent with the sight stopping distances detailed in the 'sight distance/visibility' criterion. In inner city locations where the speed limit is less than 70 km/h, the spacing between billboards should be considered on a merit basis to allow for the consolidation of signs. Only one digital billboard shall be permitted at a single location on a freeway or motorway facing the same direction.	X	X	X	✓ Sight stopping distance defined as the distance required to stop a vehicle travelling at a certain speed safely: • At 80 km/h, stopping sight distance with 2.5 s reaction time is **114 m**. • At 90 km/h, stopping sight distance with 2.5 s reaction time is **140 m**. At 100 km, stopping sight distance with 2.5 s reaction time is **170 m**.	X	
SUMMARY	All jurisdictions provide qualitative guidelines in relation to this criterion. A number of jurisdictions also specify minimum restriction distances from other features of the road environment, including other advertising devices, official traffic signs or intersections. Minimum restriction distances vary from 50 m to 160 m across jurisdictions, and depending on device type and speed limit or speed environment. Some jurisdictions cite lower values for smaller devices such as local community and business signs. Most jurisdictions also restrict the density of advertising devices by limiting the number of devices permitted at a single location.	All jurisdictions make some reference to lateral placement or associated issues within their guidance. Commonly, jurisdictions require that advertising is not erected within the clear zone (unless on bus shelters). Many jurisdictions provide quantitative guidance, with values ranging from a minimum of approx. 1 m from the carriageway edge to up to 15 m, depending on the device type and speed environment. Generally, the lateral clearance requirements are smaller for smaller devices, such as business signs, and greater for large freestanding billboards. Many jurisdictions also emphasise that advertising should not obstruct road users, including pedestrians/cyclists, nor be located in medians or traffic islands.	Most jurisdictions make at least some reference to maximum heights and minimum clearances for advertising devices. The values provided for height restrictions vary considerably depending on the type of device. A number of jurisdictions do not provide height restrictions for large free-standing devices, including digital billboards. A number of jurisdictions quote values of 2.1 to 2.5 m for clearance under freestanding structures, with the higher value particularly used when referring to structures over pedestrian footpaths. Signs and banners suspended or attached to infrastructure across carriageways are generally required to have a clearance of between 5 and 6 m.	The majority of jurisdictions have some coverage of this criterion within their guidance. Where provided, in general there is consistency across Jurisdictionss with most requiring that the sign is erected at right angles to the carriageway with a 5° deflection.	Most jurisdictions require that advertising devices do not obscure the view of drivers and in some cases also the view of cyclists and pedestrians, to traffic control devices. official traffic signs, intersections or other road users. Three jurisdictions provide more detailed guidance, covering aspects such as sightline assessment procedures and safe stopping sight distances for road hazards. New Zealand provides safe intersection distances ranging from 92 to 253 m depending on the speed limit of the road, and also requires that signs must be located so that the motorist has an unrestricted view for a minimum of 180 m on 70 km/h roads.	Many jurisdictions have introduced restrictions on the erection of advertising devices on higher-speed roads. A few jurisdictions have strict controls on all types of advertisement; for example, Tasmania does not permit advertising devices on state roads with a speed limit above 60 km/h. Other jurisdictions have restrictions for certain types of advertisement. For example, five jurisdictions have banned the use of variable or changeable devices on roads with a speed limit above 70 or 80 km/h (including motorways/freeways). In some cases, this applies to advertising located either within the boundaries of or visible from state-controlled roads.	A number of jurisdictions do not permit advertising devices to be attached to posts for official traffic signs or other purposes (e.g. guide signs). Other restrictions on the placement of advertising devices relate to: • land use • road geometry • specific roads. Jurisdictionss also provide specific guidance in relation to other types of advertising device, such as: • portable devices • aerial devices • double-sided signs.

1 Now Department of Planning, Transport and Infrastructure (DPTI).
2 Now Roads and Maritime Services (RMS).

8 GAP ANALYSIS

While many of the best practice principles identified are covered in at least some of the road authorities' existing guidelines, a number of issues are not yet considered. In particular, the following issues typically are not covered:

- specification of appropriate dwell and transition times relative to road speed limit or speed environment as well as the sight distance to the device
- restrictions in relation to the use of:
  - special effects for transition between messages e.g. 'fade', 'zoom' or 'fly-in' effects
  - message sequencing e.g. the maximum number of sequential messages permitted and/or the minimum and maximum time duration for the entire sequence
  - emotive content – *although this may be covered more comprehensively in general guidelines for advertising content, it is not typically being considered in relation to the impact on road safety*
  - audio, interactive or personalised electronic message displays
- specification of maximum and minimum duration times for display of non-static messages i.e. animated or video displays (if permitted)
- restrictions on quantity of information permitted within an advertising message depending on the road speed limit or speed environment as well as the size of the device e.g. the maximum number of informational elements
- additional specifications regarding luminance, particularly in relation to electronic devices:
  - default display luminance or display settings in event of failure
  - requirements for change in luminance in response to changing light conditions
  - luminance contrast and contrast ratio
  - particularly in relation to changeable devices i.e. digital billboards, specification of:
  - maximum dimensions
  - maximum height
  - minimum spacing between changeable devices
  - specification of maximum required viewing times and minimum sight distances of advertising devices relative to road speed limit or speed environment
  - the fundamental safety profile of the road in question, including restrictions on placement of devices on, or visible from, sections of road classified as black spots or high risk locations.

9 GUIDANCE MODEL/OUTLINE

Based on the considerations discussed above, the following guidance recommendations are provided. These are divided into sign design guidance (Table 9.1) and sign placement guidance (Table 9.2). The recommendations are specifically targeted at digital billboards and their potential for distraction and should be considered to be an addition to existing guidelines relating to conventional billboards.

9.1 Sign Design Guidance

Table 9.1: Sign design guidance recommendations

Sign design criteria	Movement	Flashing lights	Dwell time	Transition time	Message sequencing	Quantity of information	Information presentation	Colour	Information content/meaning	Luminance	Dimensions
Guidance recommendation	Roadside advertising devices should not contain motion, changes in luminance or any effects that create the illusion of movement.	Roadside advertising devices should not contain flashing, blinking, revolving, pulsating or intermittent lights.	This should take account of (1) visibility distance [VD]: the maximum distance from the sign at which the sign face becomes visible to drivers and (2) speed environment [SE]. The goal is to limit the number of message changes that drivers are exposed to. Therefore an advertising device that is visible from 1000 m away on a 60 km/h road needs to have much longer dwell times than an advertising device that is visible only from 100 m away on a 100 km/h road. All drivers will see at least one change if: • dwell time (sec) < VD (m)÷{SE (km/h) x 0.28}. Ideally, the proportion of drivers (PD) who see a change should be much less than 1. Therefore: • dwell time (sec) > VD (m)÷{SE (km/h) x 0.28}. For a desired PD: • dwell time = VD (m)÷{SE (km/h) x 0.28 x PD}.	Message should change instantaneously. That is, no 'fade', 'zoom' or 'fly-in' effects and no blank screen between messages.	Sequencing of messages should be prohibited.	For text, this should be consistent with the number of words that can be read during the approach interval and also the number of words that can be read in a 2 second interval (the 'eyes off the road' interval at which the crash rate doubles). This can be achieved by (1) estimating the legibility distance [LD]: the distance at which the text first becomes legible, (2) taking into account approach speed – the speed environment [SE], (3) estimating the comprehension rate [CR], and (4) ensuring that attention of more than 2 seconds is not required to comprehend the message. Therefore: • number of words < LD (m) ÷{ SE (km/h) x 0.28} x CR (sec). And: • number of words < CR (sec) x 2. In general, a typical comprehension rate would be approximately three words per second, but this will vary for different text sizes, fonts and formats. As a result the CR may need to be tested and demonstrated in the application process.	Not applicable to advertising devices.	Advertising devices should not be coloured like an official traffic sign or traffic signals.	Advertising devices should not imitate traffic control devices or give instructions to traffic to 'stop', 'halt' or other (e.g. give way, turn left or merge). Advertising devices should not contain extreme emotional material, especially content which could be threatening or anxiety provoking.	Luminance levels should not exceed those of static signs in typical ambient light conditions.	Advertising devices should not be shaped like an official traffic control sign/device.

9.2 Sign Placement Guidance

Table 9.2: Sign placement guidance recommendations

Sign placement criteria	Longitudinal placement	Lateral placement	Vertical placement	Orientation/viewing angle	Sight distance/visibility	Speed limit/speed environment	Other
Guidance recommendations	Advertising devices should not be located in such a way that they might interfere with the effectiveness of a traffic control device (e.g. by restricting sightlines or distracting from traffic control devices via proximity or as a background). Advertising devices should not be located so that they are visible at the approach to, or from, an intersection, pedestrian crossing, tram stop or in any location that is likely to be highly demanding of attention. Only one advertising device should be visible to drivers at any time.	Without conflicting with clear zone requirements (e.g. installation of post in a hazardous location), advertising devices should not be placed such that drivers must divert their gaze away from the forward roadway in order to comprehend the sign message.	Advertising devices should not be placed at a height that coincides with the normal 'hazard viewing window' that drivers scan. That is, they should be elevated above the height of vehicles, pedestrians and traffic control devices, but not so high that they draw the gaze away from the forward roadway.	Advertising devices should be oriented to facilitate legibility from the maximum legibility distance and across the full approach distance.	Advertising devices should be placed so that enough time is available on approach for drivers to comprehend the message. That is, the sight distance must correspond to the required legibility distance.	The speed environment on its own is likely to be less important than the overall risk profile of the road and driving demand characteristic of the road section which should be carefully reviewed.	All installations should consider the overall risk profile of the road environment in question and the driver demand of the road section (e.g. crash history, AusRAP ratings, traffic volume, speed, complexity, clutter). In particular: • Black spots and road sections with less than a 3-star rating (AusRAP or equivalent) should be ruled out for advertising device placement. • Highly cluttered road environments should be ruled out for advertising device placement. • The installation should be reviewed at regular intervals and audited against the guidance principles (because crash rates, traffic volume, the built environment etc. will change over time). • Advertising signs should not be placed on the same posts as traffic control devices.

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APPENDIX A LIST OF WORKSHOP ATTENDEES

David Jorgensen, Department of Transport and Main Roads, Queensland

Murray Cleaver, Roads and Maritime Services, NSW

Debbie Romp, Roads and Maritime Services, NSW

Dr Jessica Edquist, Monash University, Victoria

Roger Farley, Office of Road Safety, Western Australia

Vin Gerasimenok, Department of Infrastructure, Energy and Resources, Tasmania

Steve Clark, Department of Planning, Transport and Infrastructure, South Australia

Raphael Grzebieta, University of NSW, NSW

Dr Paul Roberts, ARRB GROUP, Western Australia

Noha Elazar, ARRB GROUP, NSW

INFORMATION RETRIEVAL

Austroads, 2013, **Impact of Roadside Advertising on Road Safety**, Sydney, A4, pp.50. **AP-R420-13**

Keywords:

Roadside advertising, digital billboards, driver distraction, roadside advertising guidelines.

Abstract:

This research project aimed to harmonise the criteria road agencies use to manage roadside advertising devices, and promote improved and consistent good practice by road agencies.

Physical and psychological human characteristics strongly suggest that in some driving situations it is likely that the movement or changes in luminance created by digital displays will involuntarily capture attention, and that particularly salient emotional and engaging material will divert attention, to the detriment of driving performance. This is particularly the case for inexperienced drivers. Where this happens in a driving situation that is also cognitively demanding, the consequences have the potential to be significant.

This report provides guidance principles designed to mitigate the potential for roadside advertising to capture attention, reduce the cognitive capacity available for driving and have a negative impact on driving performance. The principles are divided into sign design and sign placement recommendations and cover movement, dwell time, transition time, message sequencing, quantity of information, information content / meaning, luminance, longitudinal placement, lateral placement, vertical placement, orientation/viewing angle, sight distance/visibility, and speed environment.

3 GENERAL REPORTS

3.1 Current Works

RECORD NUMBER: 2025/2449
AUTHOR: Scott Maunder, Director Technical Services

EXECUTIVE SUMMARY

The purpose of this report is to update Council on construction and maintenance works which have been carried out since the last current works report to Council.

LINK TO DELIVERY/OPERATIONAL PLAN

The recommendation in this report relates to the Delivery/Operational Plan strategy "9.2 Design and deliver the road infrastructure for a growing city".

FINANCIAL IMPLICATIONS

Nil

POLICY AND GOVERNANCE IMPLICATIONS

Nil

RECOMMENDATION

That the information provided in the report on Current Works be acknowledged.

FURTHER CONSIDERATIONS

The recommendation of this report has been assessed against Council's key risk categories and the following comments are provided:

Service/ Project Delivery	Nil
Financial	No change to the financial risk profile with this report for information.
Reputation/Political	The temporary closure of the Ash Street crossing for works on Huntley Road is in place with no further issues identified.
Environment	Nil
Compliance	Nil issues.
People & WHS	Nil
Information Technology/ Cyber Security	No identified IT/Cyber Security Risks with this report for information.

SUPPORTING INFORMATION

Road Maintenance

Resources have been continuously applied to pothole repairs on sealed roads across the city.

Road Upgrading

Huntley Road

Works continued on this project in the following areas:

- Testing and commissioning of completed water main relocation;
- Pavement widening and reconstruction;
- Kerb and gutter construction.

3.1 Current Works

Photo – Huntley Road new kerb work for on street parking

Whiley Road

Council staff continued works on site with:

- Culvert widening;
- Table drain clearing;
- Drainage construction;
- Road widening;
- Pavement construction;
- Sealing of stage 1.

Aerodrome Road

A final seal was applied to road upgrading works completed in winter at the Forest Road end.

Concrete and Drainage

Clergate Road to Strathgrove Way trunk drainage

Works were completed on this project and the site released to the property owners after fences were restored.

Footpaths

Work has commenced or continued on new footpaths and footpath reconstructions at:

- Dimboola Way – Glasson Drive to Downey Crescent;
- Seville Parade – Cecil Road to Hill Street.

3.1 Current Works

Work was completed on new footpaths and footpath reconstructions at:

- Lords Place outside of Morris Motorcycles;
- Margaret Street – Lords Place to Peisley Street;
- Buckland Drive – Hallaran Way to Young Street;
- Parklands Way – Bucklands Drive to Bucklands Drive.

Photo – Footpath and gutter reconstruction outside of Morris Motorcycles

Traffic Facilities

The new pedestrian refuge on Telopea Way outside of the North Orange Shopping Centre was opened for pedestrian use. Linemarking for the project will be undertaken when contract resources become available. These works were fully funded by a grant from the NSW Safer Roads Program.

Upcoming major works

Major road upgrading works, status and timing (as weather permits) as follows:

Work	Location	Status
Woodward Street	Wentworth Avenue to Gardiner Road	Pavement and geometric design phase. Expected works to commence in February 2026.
Leeds Parade	Phillip Street to Honeyman Drive	Procurement complete, contract awarded. Expected works to commence in December 2025.
Anson Street	Gardiner Road to railway bridge	Procurement complete, contract awarded. Expect works to be completed in Christmas School Holiday period.
Peisley Street	Franklin Road to Warrendine Street	Procurement complete, contract awarded. Expected works to commence early February.
Peisley Street	Moulder Street to Warrendine Street (stg2)	Procurement phase. Expect works to commence early February 2026.

3.1 Current Works

WATER SUPPLY SERVICES

The type and number of water supply service responses by maintenance staff are shown in the table below.

Category	July 2024 – June 2025	October 2025
Water - Leak (Meter)	369	23
Water Request - Meters Faulty (incorrect readings)	115	0
Water - No Water Supply	69	4
Water – Pressure	25	3
Water Request - Replace Meter box/lid	24	2
Water quality – Dirty	35	1
Water - Burst Main	114	4
Water - leak (Main, Valve, Hydrant)	579	42
Total Water Requests	**1,330**	**79**

Construction Works

- Renewal of the Maxwell Avenue water main is continuing with 550m of water main renewal complete. The project is expected to be completed in December.
- Hill Street water main renewal is continuing between Byng Street and March Street with connection works currently underway at the March Street end of the project.

New Water Connections

- 2 x 32mm new water service connections – 5 Kurim Avenue.
- 2 x 20mm water service connections – 183 Margaret Street.
- 20mm water service connections – 445 Summer Street.

Renewals

- New water meters installed to the Orange Function Centre.
- Discussion of fire service at 118 March Street.

SEWER SERVICES

The type and number of sewer service responses by maintenance staff are shown in the table below.

Category	July 2024 – June 2025	October 2025
Sewer Choke - Blockages	260	23
Sewer Complaint - Odour	5	0
Sewer Complaint - Overflow	217	18
Total Sewer Requests	**482**	**41**

3.1 Current Works

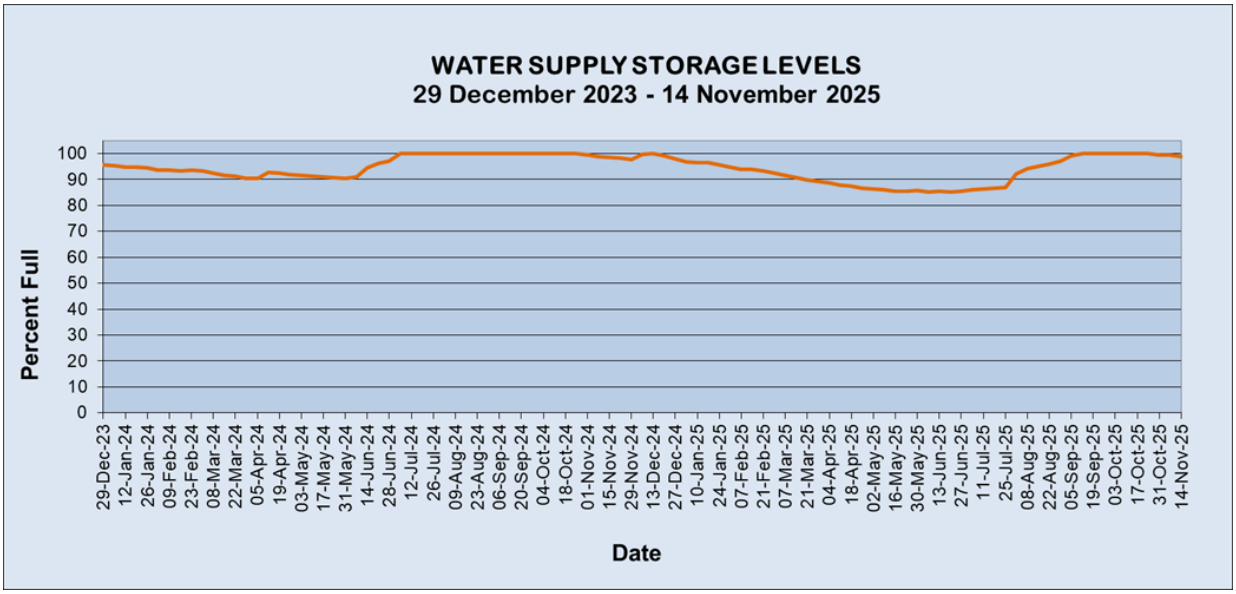
Construction Works

- Sewer access chamber replacement at Gona Street.
- Sewer connection reconstruction at 143 Edward Street.
- Sewer connection reconstruction at 15 Casuarina Drive.

WATER SUPPLY SECURITY

Water Storage Levels

The water storage trend for the combined storages from 29 December 2023 to 14 November 2025 is shown in the graph below.



Below levels current at 14 November 2025:

Location	Level Below Spillway (mm)	% of Capacity
Suma Park Dam	162	98.53%
Spring Creek Dam	15	99.65%
Lake Canobolas	0	100.00%
Gosling Creek Dam	75	97.82%

Supplementary Raw Water Sources

Extractions from the supplementary raw water supplies in recent months are provided in the table below. The 'Total' column is the tally for all months in the water year (starting July).

Raw Water Source	August 2025 (ML)	September 2025 (ML)	October 2025 (ML)	Total 2025/2026 (ML)
Bores*	5.08	3.99	4.48	17.48
Stormwater	0.00	0.00	0.00	0.00
Macquarie River	0.00	0.00	0.00	0.00
Total	**5.08**	**3.99**	**4.48**	**17.48**

** Bores include two at Clifton Grove and two at the Showground/Margaret Street*

3.1 Current Works

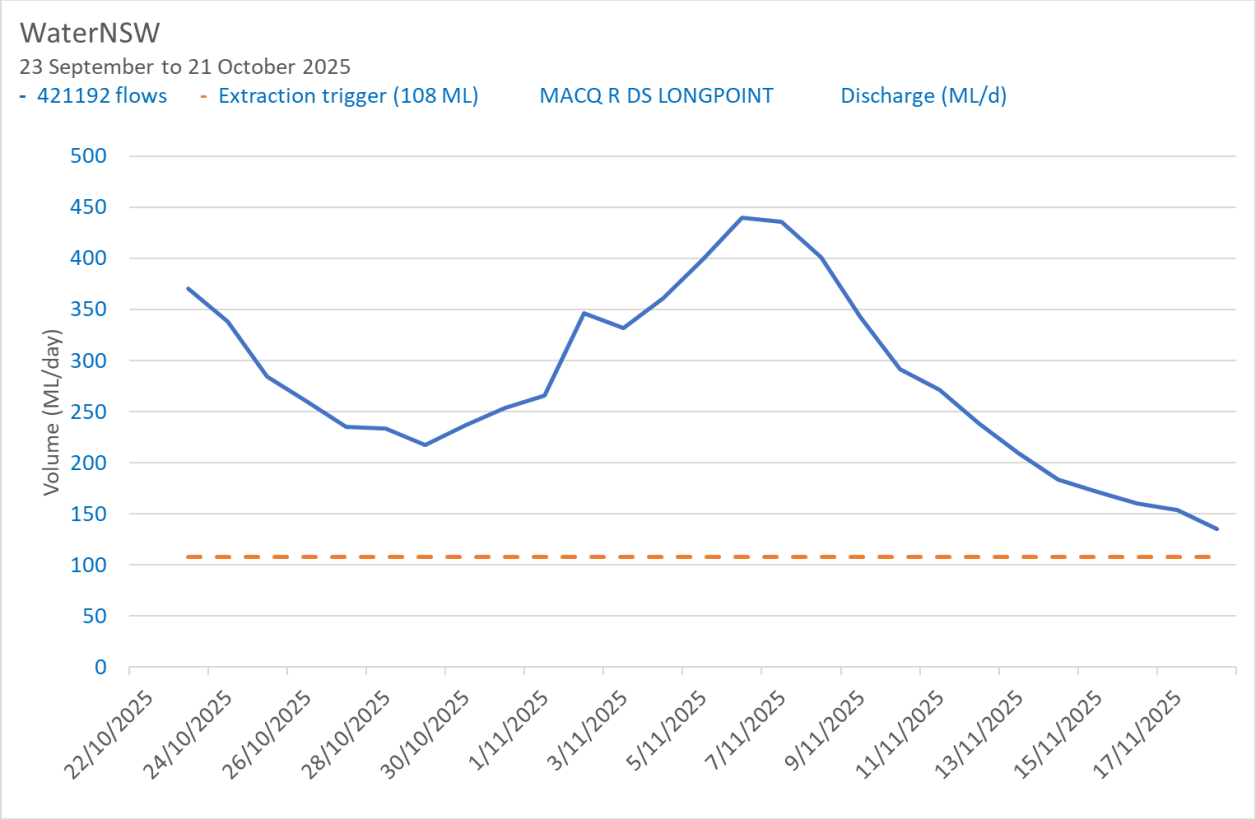
A more detailed monthly summary of raw water transfers can be found on Council's website at https://www.orange.nsw.gov.au/water/oranges-water-supply/.

The first quarter Decision Support Tool (DST) was conducted 22 October 2025 predicting neutral conditions for the year ahead from the Bureau of Meteorology's POAMA forecast. No supplementary supplies are predicted to be required in the second quarter.

Macquarie River Flows

The mean daily flows in the Macquarie River monitored downstream of Long Point (Station 421192) for 22 October to 18 November 2025 are presented below. The data was sourced from the WaterNSW website with flows presented in megalitres per day (ML/d).

There was a maximum flow rate of 439 ML/d on 5 November 2025 before reducing to a minimum of 119 ML/d on 18 November 2025. The flow rates remained above the extraction trigger value (108 ML/d) for the period.



Demand Management

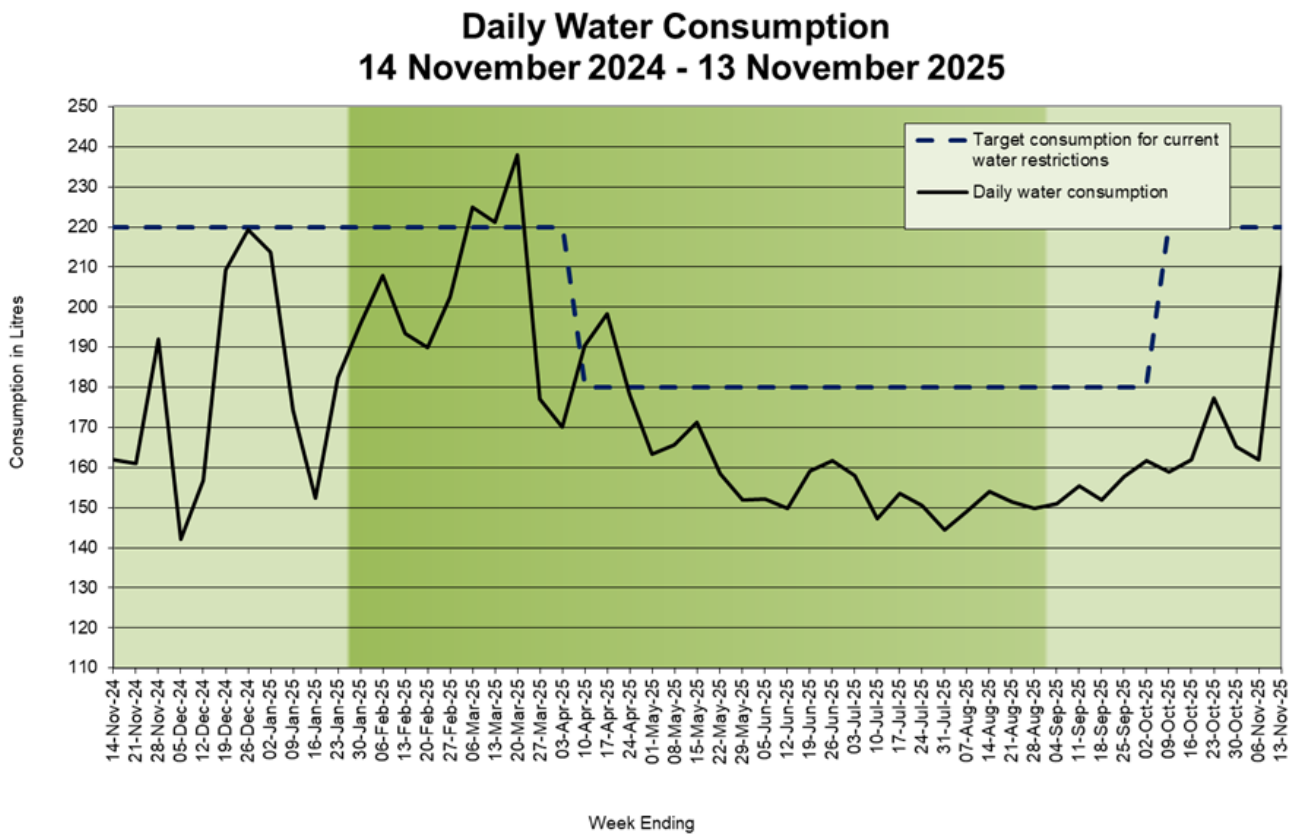
Residential water use

Permanent Water Saving Standards came into effect on Friday 25 June 2021.

Average daily residential water consumption for the period 17 October 2025 to 13 November 2025 was 179 litres per person per day.

The graph below shows the average daily residential water consumption trend from 14 November 2024 to 13 November 2025.

3.1 Current Works



Total water use

The average daily city-wide water consumption for the period 17 October 2025 to 13 November 2025 was 11.52 ML/day.

DRINKING WATER QUALITY

Water samples are collected as a component of Orange City Council's Drinking Water Quality Monitoring Program in accordance with NSW Health requirements. Samples are collected regularly and sent to the NSW Government National Association of Testing Authorities (NATA) accredited laboratory for analysis.

The Icely Road supply system achieved 100% compliance for physical, chemical and microbiological samples in October 2025.

3.1 Current Works

PROJECT MANAGEMENT OFFICE

East Orange Harvesting Wetlands

(Blackman's Swamp Creek Stormwater Harvesting Stage 2)

This project, when completed, will provide an offline storage on Blackman's Swamp Creek to increase the city's water supply secure yield from stormwater harvesting.

DCCEEW issued an approval for the works under the Water Management Act 2000 in October 2024. There was a joint appeal by two applicants with DCCEEW listed as the first respondent and Council the second respondent on 21 November 2024.

The first directions hearing was held on 20 January 2025 and set down dates for conciliation. The conciliation process was finalised over four meetings without a resolution. A second directions hearing was held on 14 July 2025 to set a hearing date in the Land and Environment Court. The court has listed the date for hearing for 4 days (plus 1 day in reserve) commencing in Orange on 1 December 2025. The remaining days will be in Sydney.

Council through our legal team remain in dialogue with the applicants in an effort to resolve the matter without the need for the hearing.

Sewage Treatment Plant Inlet Works

Progress on the Inlet Works component of the Sewage Treatment Plant has recommenced following a seasonal pause. The contractor has begun removing the defective epoxy coating identified during quality assurance inspections, with rectification works now underway. Warmer weather has enabled the resumption of major works, as temperature constraints previously limited the ability to apply the epoxy coating to a compliant standard.

A specialist subcontractor has been engaged to undertake the removal and reapplication of the epoxy coating, with the contractor finalising onboarding and developing a detailed rectification methodology to ensure long-term durability and performance. Ancillary works, including the installation of guardrails, have also progressed during this period.

With improved weather conditions and the resolution of temperature-related constraints, the pace of works is expected to increase. Preparations are continuing for a potential chamber cut-over, which will be scheduled in alignment with operational requirements and the completion of remaining works.

Orange Conservatorium and Planetarium

The Orange Conservatorium and Planetarium project is moving ahead with strong progress. Internal works are advancing across Level 1 and Level 2, including installation of hydraulic, electrical and mechanical services to meet design and performance standards.

A major milestone has been achieved with the roofing for the Conservatorium section now complete. Roofing works for the Recital Hall are underway, and once finished, the building will be fully enclosed and watertight - a critical step that will allow internal finishes and specialist installations to accelerate without weather delays.

Other recent progress includes:

- Structural steel installation in and around the Recital Hall;
- Completion of the catwalk structure and ongoing concrete works for internal stairs;
- Courtyard façade cladding and window sub-seal installation;
- Studio roof sheeting;
- Preparations for acoustic wall linings on Level 1 to ensure exceptional sound quality.

3.1 Current Works

Looking ahead, the focus will remain on completing roofing works, advancing internal linings, and continuing services integration. These steps will position the project for major progress in the coming months.

We're continuing to work closely with our contractors and project partners to confirm a realistic completion timeframe. This collaborative approach helps ensure the schedule aligns with quality standards and the progress being achieved on site.

Photo – Construction of Orange Conservatorium and Planetarium – Back of house steel and intumescent painting installation underway.

Photo – Construction of Orange Conservatorium and Planetarium – Main Entrance – March Street steel is underway including the external façade.

3.1 Current Works

Orange Sports Precinct

Turf installation across fields 1–8 was completed in April 2025. Scheduled works for the establishment of the fields to ensure they meet performance standards was deferred due to seasonal conditions (Turf is dormant in winter and these works need to be conducted when turf is actively growing). This establishment works have commenced and include heavy (fraise) mowing, aeration, fertiliser application, and top dressing to establish premium playing surfaces. These activities are standard for high-performance fields and are similar to annual maintenance undertaken at Wade Park.

The contractor is preparing to hand over the fields with documentation and maintenance plans being finalised to support a smooth transition. Council remains focused on delivering the best sporting precinct in regional NSW.

The contract for John Davis OAM Stadium is being finalised following the ceremonial sod-turning in November. Heritage construction approval and Section 60 (S60) approval have been received, and works are expected to commence onsite shortly. Council staff are working through several value management items as part of the formalisation process.

The electrical infrastructure tender has been reviewed and awarded, with works scheduled to commence onsite shortly. Within the precinct, earthworks and preparation activities continue, including concrete footpath installation and topsoil placement around fields 1–8, with grassing expected in the coming weeks under optimal growing conditions.

Works along Huntley Road are progressing well despite intermittent wet weather, with recent activity including road realignment at the Ash Street intersection, completion of the water main relocation, pavement widening, and asphalt paving in selected areas. A temporary carpark has also been established to support users during verge construction.

Additional tenders and design packages, including carparks and the Forest Road intersection, are being prepared to support broader precinct access and long-term functionality.

Photo - Sports Precinct – Centre path and drainage fields 1-8

3.1 Current Works

Photo – Sports Precinct – Internal water line and earth works and concrete works underway

Lone Pine Culvert Upgrade

The Lone Pine project involves the construction of a small culvert and concrete causeway to improve access and drainage in the area. The tender has been awarded to the contractor, and Council staff are preparing the contract for execution.

Works are likely to commence after Christmas to minimise the impact of the required full road closure on the community and to reduce the environmental risk of washout during construction. While a full closure will be necessary, the approach being taken will ensure the duration of disruption is kept as short as possible. Planning remains focused on readiness for mobilisation and smooth delivery once onsite activity begins.

March Street Bridge

The March Street Bridge project involves replacing the existing culvert across the channel at March Street with a new small bridge to improve drainage and structural integrity. The contract has been signed and executed, and design works are now underway. An inception meeting with the contractor is scheduled to be held in the coming weeks to initiate the project and confirm delivery timelines. Water line relocation is about to commence onsite, and electrical pole relocation has already been completed. This upgrade remains a key component of Council's ongoing infrastructure renewal program.

3.1 Current Works

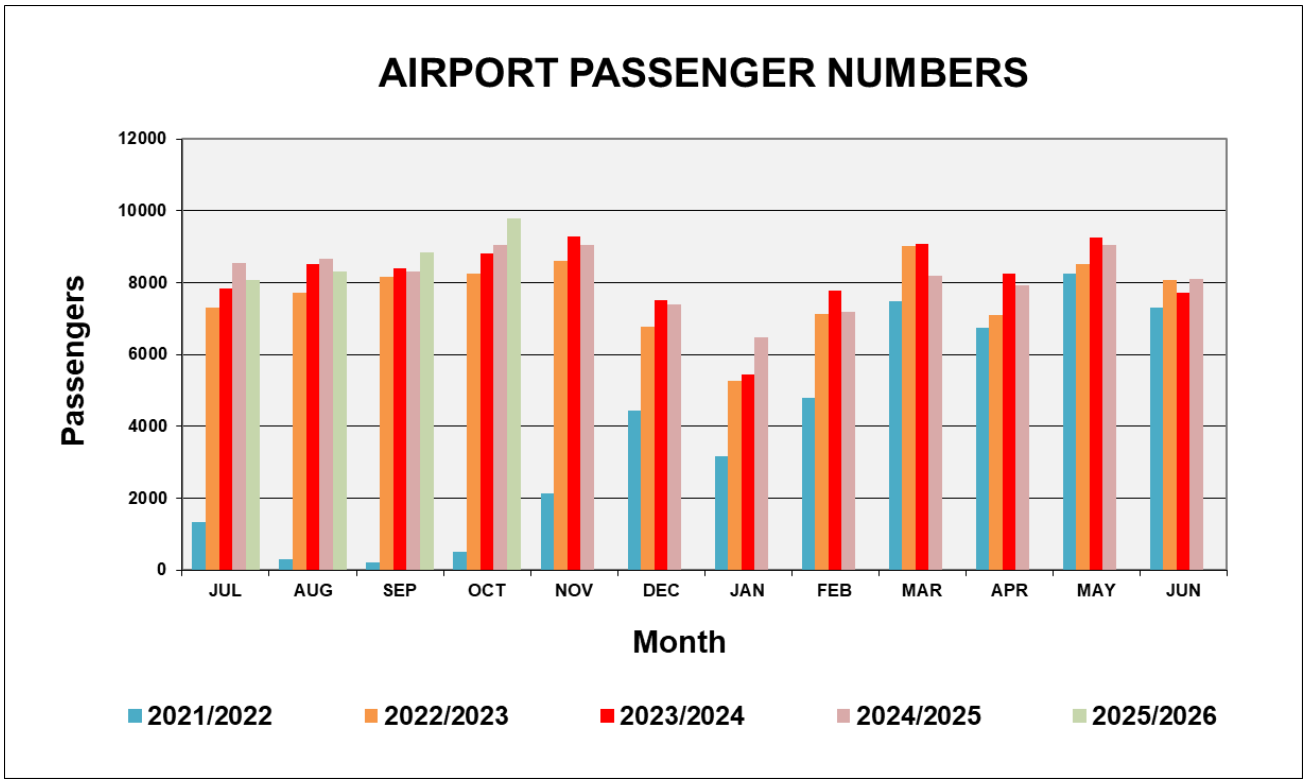
C2 Basin

The C2 Basin project involves the construction of a new stormwater basin near Shiralee Road to improve stormwater management and support future development in the area. The contract has now been agreed and executed, and planning for mobilisation is underway. Preparations are being made to start onsite works in the coming weeks, with a focus on ensuring readiness and minimising disruption during construction.

AIRPORT PASSENGER NUMBERS

Passenger numbers during October 2025 were 9,796 compared to 9,036 for the same month in 2024.

These figures include passenger numbers from Regional Express, Link Airways (formerly Fly Corporate) and QantasLink.

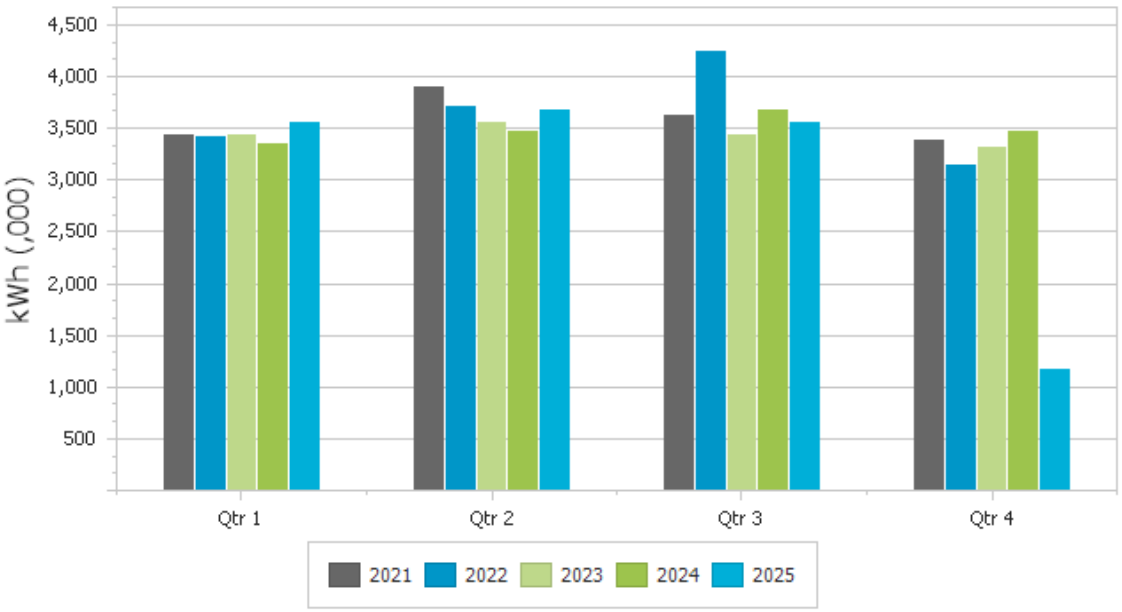


3.1 Current Works

ENERGY USE

The following information is sourced from E21, Council's energy software.

Consumption History - up to 4 Years — Thursday, 20 November 2025 10:56 AM



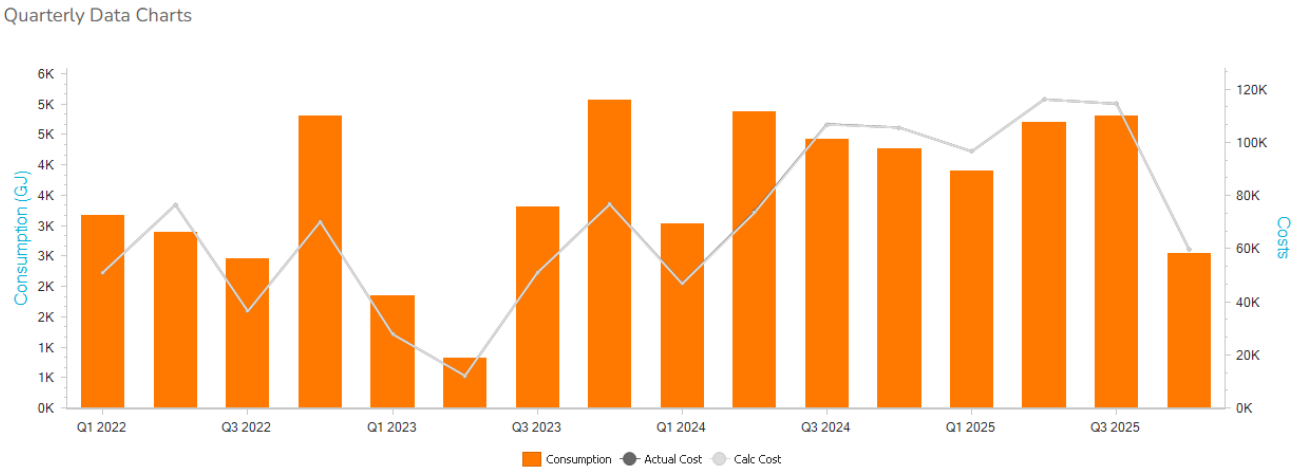
History - Last 12 Months

GROUP	CONSUMPTION (kWh)	BILL (ex GST)
Parks & Gardens	0	$0
Water	4,728,523	$1,266,096
Public Buildings & Facilities	3,016,796	$921,472
Lighting	1,434,352	$515,146
Other	0	$0
Sewer	3,399,798	$922,035
Macquarie Pipeline	18,396	$19,473
Ungrouped	155,130	$51,700
Total	12,752,994	$3,695,921

3.1 Current Works

Gas Consumption

Please note discrepancies in historic gas consumption are due to gaps in data captured. This issue was rectified in Q3 2023.



Period	Consumption (GJ)	Actual	Calculated	$/GJ	Emissions
Mar-2022	3,172.7	$51,124.20	$51,130.61	16.11	204.6
Jun-2022	2,898.9	$76,552.76	$76,560.49	26.41	187.0
Sep-2022	2,458.7	$36,515.54	$36,489.18	14.85	158.6
Dec-2022	4,811.3	$70,188.18	$70,176.02	14.59	310.3
Mar-2023	1,855.8	$27,836.11	$27,824.77	15.00	119.7
Jun-2023	822.3	$12,148.66	$12,146.93	14.77	53.0
Sep-2023	3,317.7	$50,958.97	$50,993.39	15.36	214.0
Dec-2023	5,079.3	$76,928.44	$76,768.41	15.15	327.6
Mar-2024	3,043.2	$46,976.20	$46,832.11	15.44	196.3
Jun-2024	4,876.4	$74,025.48	$73,627.91	15.18	314.5
Sep-2024	4,434.5	$106,921.79	$106,779.35	24.11	286.0
Dec-2024	4,273.6	$105,654.16	$105,642.01	24.72	275.6
Mar-2025	3,906.3	$96,670.27	$96,661.61	24.75	252.0
Jun-2025	4,702.6	$116,248.52	$116,239.28	24.72	303.3
Sep-2025	4,816.5	$114,625.40	$114,618.27	23.80	310.7
Dec-2025	2,549.1	$59,894.49	$59,887.52	23.50	164.4
	57,018.9	**$1,123,269.2**	**$1,122,377.8**		**t 3,677.7**