

Department of Transport and Planning

Requirements and Guidelines for Illuminated Outdoor Advertising Signage

4 October 2023



Contents

Purpose of this document	2
Operation of this document	2
History of this document	2
Why is luminance important?	2
Responsibilities under the <i>Planning and Environment Act 1987</i>	3
When will the luminance standard be applied?	3
Category A	3
Category B	3
Lighting criteria	4
District Brightness Areas	5
High District Brightness Areas	5
Medium District Brightness Areas	5
Low District Brightness Areas	5
What needs to be included in a Lighting Impact Assessment Report, Lighting Compliance Report and Lighting Compliance Record:	6
Lighting Impact Assessment Report	6
Lighting Compliance Report	7
Lighting Compliance Record	7
Standard planning permit conditions which may be required	8
Need more information?	10

Version	Date	Description
1	6 May 2022	
2	24 March 2022	Updated to Department of Transport and Planning and made minor correction.
3	4 October 2023	Minor corrections

Purpose of this document

The purpose of this document is to provide guidance in relation to lighting standards for illuminated outdoor advertising signage, where this signage is visible from the Transport Zone 2.

Operation of this document

This document applies to all illuminated signs that would be referred to the Head, Transport Victoria under the Victoria Planning Provisions (VPPs).

It will be used by Department of Transport and Planning planning officers when assessing applications for illuminated signs and will guide the conditions placed upon signs where the Head, Transport for Victoria does not object to the sign subject to conditions.

Industry professionals are encouraged to refer to this document when applying for a permit for an illuminated sign.

History of this document

Earlier working versions of this document were titled *Department of Transport Policy and guidelines for Illuminated Outdoor Advertising Signage*. This was the title used in initial consultations.

When originally published in 2022, the title changed to *Department of Transport Requirements and guidelines for Illuminated Outdoor Advertising Signage* to better reflect its content.

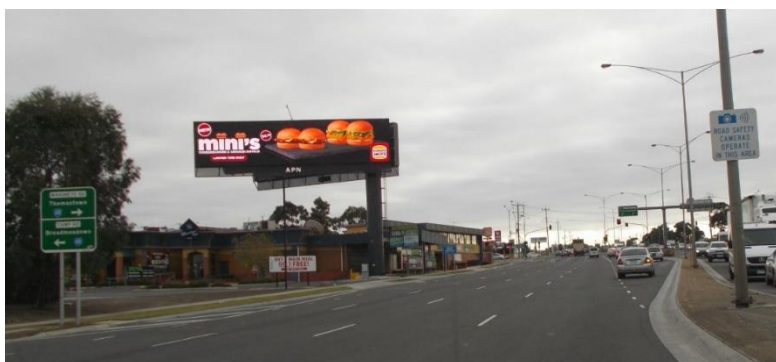
The current title is *Department of Transport and Planning Requirements and guidelines for Illuminated Outdoor Advertising Signage* to reflect machinery of government changes in 2022-2023.

Why is luminance important?

The Department of Transport and Planning is responsible for ensuring that safety within the road environment is maintained and distraction to all road users due to glare from outdoor advertising signs is minimised.

Disability glare is caused when the presence of bright light from a natural source (the sun) or from an artificial light can causes difficulty in seeing the surrounding environment. Within the road environment, this means that road users may divert their gaze from the road which could cause safety issues.

To ensure safety within the road network is maintained, disability glare caused from excessively bright advertising signs can be mitigated by applying luminance standards for illuminated signage so that road users do not experience disability glare.



It is the responsibility of the Department of Transport and Planning to control the luminance of advertising signage so signs do not dazzle road users through disability glare or excessive brightness.



Responsibilities under the *Planning and Environment Act 1987*

The Department of Transport and Planning (under delegation of the Head, Transport for Victoria) has statutory obligations under the *Planning and Environment Act 1987* and the Victoria Planning Provisions (VPPs) to assess and provide referral responses in relation to certain advertising signage proposals. Clause 52.05 specifies that:

An application to display an animated or electronic sign within 60 metres of a freeway or arterial road declared under the Road Management Act 2004 must be referred in accordance with Section 55 of the Planning and Environment Act 1987 to the referral authority specified in Clause 66.03 or a schedule to that Clause.

When will the luminance standard be applied?

The luminance standard has been updated to mitigate the effects of veiling luminance and protect road users from excessive glare.

The new luminance criteria will be applied to all advertising signage applications referred to the Head, Transport for Victoria in accordance with the requirements under the *Planning and Environment Act 1987*. The luminance standards will apply to electronic signage as well as floodlight, externally and internally illuminated signage, it includes luminance levels for large format and small format signs.

Category A

Category A Illuminated signs are classified as the following:

- High wall sign;
- Major Promotion sign;
- Panel sign;
- Pole sign;
- Sky sign;
- A Promotion Sign (with an area greater than 3 square metres)

Category B

Category B Illuminated signs are classified as the following:

A promotion sign with an area of up to 3 square metres, i.e. bus/tram shelter, illuminated phone booth structure, or digital TV screens behind a shop window.



Lighting criteria

The following lighting criteria applies to illuminated outdoor advertising signage. The maximum average luminance and Threshold Increment must not exceed the values shown in the table below for the various lighting conditions shown.

Lighting Condition	CATEGORY A MAXIMUM VALUES OF LIGHT TECHNICAL PARAMETERS			CATEGORY B MAXIMUM VALUES OF LIGHT TECHNICAL PARAMETERS		
	Max Average Luminance (cd/m ²)	Threshold Increment (Note 1)		Max Average Luminance (cd/m ²)	Threshold Increment (Note 1)	
		Max %	Adaptation Luminance		Max %	Adaptation Luminance
Full sun on face of signage	No limit	-	-	No limit	-	-
Daytime luminance	6000	-	-	4000	-	-
Morning and evening twilight and overcast weather (Note 2)	700	-	-	400	-	-
Night Time - High District Brightness (Note 3)	350	20%	5	200	15%	5
Night Time - Medium District Brightness (Note 3)	250	20%	1	150	15%	1
Night Time - Low District Brightness (Note 3)	150	20%	0.25	Not Permitted	N/A	N/A

Note 1: Threshold increment as defined and calculated in AS4282.

Note 2: Twilight is defined as the period when the sun is below the horizon but light from the sun is still indirectly visible. When the sun is 18 degrees or more below the horizon, the amount of visible light is very low and this is defined as Night time.

Note 3: Refer to page 5 for details of equivalent High, Medium, and Low district brightness areas.



District Brightness Areas

Night time luminance conditions are different for areas of High District Brightness, Medium District Brightness, and Low District Brightness. This reflects the fact that an illuminated sign will appear more prominent in a darker location, compared to a brighter one.

High District Brightness Areas

High District Brightness Areas are defined as:

- Town centres, Central Business District areas and other commercial areas. Roads are illuminated with street lighting.
- Residential areas which abut commercial areas and have a high level of ambient lighting. Roads are illuminated with street lighting.
- Industrial areas with a high level of ambient lighting and/or a significant number of illuminated signs. Roads are illuminated with street lighting.
- Equivalent to Zone “A4” in Table 3.1 of *AS4282:2019*.

Medium District Brightness Areas

Medium District Brightness Areas are defined as:

- Residential and suburban areas that do not abut commercial areas. Roads are typically provided with local level street lighting.
- Equivalent to Zone “A3” in Table 3.1 of *AS4282:2019*.

Low District Brightness Areas

Low District Brightness Areas are defined as:

- Sparsely inhabited rural and semi-rural areas, with low ambient lighting levels. Roads may have no street lighting at all, or low level lighting only.
- Major or minor roads with no street lighting in low ambient lighting areas, including unlit sections of highways and freeways
- Equivalent to Zone “A2” in Table 3.1 of *AS4282:2019*.



What needs to be included in a Lighting Impact Assessment Report, Lighting Compliance Report and Lighting Compliance Record:

Lighting Impact Assessment Report

A Lighting Impact Assessment Report must include the following information at a minimum.

Assessment requirement	Provided? Yes/No
1	A detailed description of the proposed signage, including location, size, orientation, dwell time, lighting specification details, dimming/control functionality, and hours of operation.
2	A plan drawn to scale showing the proposed sign in elevation and plan view (including which signs are electronic and which are static).
3	Photomontage images showing the proposed sign from a driver's perspective (with approximate distances) from any locations where drivers would be able to view the proposed sign.
4	A classification of the existing night time lighting condition as either High District Brightness, Medium District Brightness or Low District Brightness and justification for the classification.
5	The proposed maximum luminance of the sign for each lighting condition, with detailed calculations provided to demonstrate compliance with the criteria outlined in the <i>Department of Transport and Planning Requirements and Guidelines for Illuminated Outdoor Advertising Signage</i> . Calculations must use the definitions and methodology as described in AS4282 where relevant. A maintenance factor of 1 is to be used for all calculations.
6	A certification, signed by a suitably qualified Lighting Consultant, stating that the design complies with the <i>Department of Transport and Planning Requirements and Guidelines for Illuminated Outdoor Advertising Signage</i> .



Lighting Compliance Report

A Lighting Compliance Report must include the following information at a minimum.

Assessment requirement	Provided? Yes/No
1 Date and times of the luminance measurements each of the relevant lighting conditions.	
2 Details of the luminance meter used, including: <ul style="list-style-type: none">Serial numberMeter Calibration Report numberDate of calibration (must be within 12 months of date of measurements)	
3 A description of the luminance methodology used, including: <ul style="list-style-type: none">Location and orientation of the luminance meter relative to the sign,The image/content displayed on sign for measurements (should be 100% white image unless signage is a fixed colour)The number of measurements points taken	
4 A summary showing the final average luminance of the signage for each relevant lighting condition.	
5 A certification, signed by someone who is suitably qualified to undertake luminance measurements.	

Lighting Compliance Record

In some instances, the Department of Transport and Planning may require a sign operator to keep a compliance record for the continued operation of a sign. This is important for large format signs which pose a particular impact to the road environment.

When required, the operator must keep a Compliance Record of the operation of the sign. This must be provided to the Head, Transport for Victoria within 5 days of a written request.

If required by the Department of Transport and Planning, a Lighting Compliance Record must include the following information at a minimum.

Assessment requirement	Provided? Yes/No
1 The sign's luminance (cd/m ² or as a percentage of its maximum luminance) in minimum 10-minute intervals.	
2 The sign's photocell (light sensor) reading of the ambient light in minimum 10-minute intervals.	
3 The dwell time and transition time between successive images.	
4 All record information must be time and date stamped to show the time of measurement.	
5 Compliance Records must be maintained for a minimum of 12 months.	



Standard planning permit conditions which may be required

The Department of Transport and Planning will undertake an assessment under delegation of the Head, Transport for Victoria. Each sign will be considered in its context, and depending on the sign, conditions may be placed on the planning permit to control its operational parameters.

Below is a list of standard conditions. Each condition is considered separately as to whether it is relevant to the particular permit application.

Item	Condition
1	<p>Luminance standard</p> <p>a) During the operation of the sign, the maximum average luminance and threshold increment values as specified in below must not be exceeded:</p> <ul style="list-style-type: none">Maximum average luminance:<ul style="list-style-type: none">Full sun on face of signage: no limitDaytime luminance: 6000 cd/m²Morning and evening twilight and overcast weather: 700 cd/m²<insert> District Brightness:<ul style="list-style-type: none">Night time: <insert>Threshold increment max %:<ul style="list-style-type: none">Night time: <insert>Adaptation luminance:<ul style="list-style-type: none">Night time: <insert>
2	<p>Brightness levels</p> <p>a) The signs must be dimmable and have a suitable control system to enable maximum lighting levels to be set or adjusted if deemed necessary by the Responsible Authority and the Head, Transport for Victoria.</p> <p>b) Where illuminated during the day, the sign must be fitted with Photocell/s (light sensor/s) that measure the ambient light and control system technology that enables the luminance of the sign to automatically adjust relative to the measured ambient light level.</p> <p>c) Any change in brightness levels must be applied during an image transition, not while an image is being displayed.</p>
3	<p>Image transitions</p> <p>a) Where the graphical content or colours can change (such as for digital/electronic signage), any changes in image must occur in 0.1 seconds or less.</p>
4	<p>Externally illuminated signage</p> <p>a) Retro-reflective material or high glossy surfaces must not be used.</p>

5 Lighting Impact Assessment Report

- a) A Lighting Impact Assessment Report must be submitted to the Head, Transport for Victoria. The Lighting Impact Assessment Report must be undertaken by a suitably qualified lighting consultant and include the following:
 - i. A detailed description of the proposed signage, including location, size, orientation, dwell time, lighting specification details, dimming/control functionality, and hours of operation.
 - ii. A plan drawn to scale showing the proposed sign in elevation and plan view (including which signs are electronic and which are static).
 - iii. Photomontage images showing the proposed sign from a driver's perspective (with approximate distances) from any locations where drivers would be able to view the proposed sign.
 - iv. A classification of the existing night time lighting condition as either High District Brightness, Medium District Brightness or Low District Brightness and justification for the classification.
 - v. The proposed maximum luminance of the sign for each lighting condition, with detailed calculations provided to demonstrate compliance with the criteria outlined in the *Department of Transport and Planning Requirements and Guidelines for Illuminated Outdoor Advertising Signage*. Calculations must use the definitions and methodology as described in AS4282 where relevant. A maintenance factor of 1 is to be used for all calculations.
 - vi. A certification, signed by a suitably qualified Lighting Consultant, stating that the design complies with the *Department of Transport and Planning Requirements and Guidelines for Illuminated Outdoor Advertising Signage*.

6 Compliance with Lighting Impact Assessment Report

- a) The sign must operate in accordance with the Lighting Impact Assessment Report submitted with the application prepared by *(insert name)*, *(insert date)* to the satisfaction of and at no cost to the Head, Transport for Victoria and the Responsible Authority.

7 Lighting Compliance Report

- a) Prior to the operation of the sign, a Lighting Compliance Report must be submitted to and approved by the Responsible Authority and the Head, Transport for Victoria. The Lighting Compliance Report must demonstrate that the sign has been commissioned according to the requirements of the Lighting Impact Assessment Report. The Compliance Report must include the following:
 - i. On site luminance measurements for Daytime, Evening/Morning Twilight and Night Time, based on a 100% white screen set to the maximum value for each lighting condition.
 - ii. Date and times of luminance measurements for the relevant lighting conditions.
 - iii. Details of the luminance meter used, including serial number. The luminance meter must have been calibrated by an appropriately certified Lab within the last 12 months. The date of calibration and Calibration Report Number shall be provided.
 - iv. A description of the luminance methodology used, including location and orientation of the luminance meter relative to sign, the image/content displayed on sign and number of measurement points taken. The signage should be measured with a 100% white image displayed, unless signage is a fixed colour/design.
 - v. Photos of the sign for each sky condition measured, taken from the meter location.
 - vi. Indicative elevation plans of the signage showing the values of luminance at each measurement point.
 - vii. A summary showing the final average luminance of the signage for each relevant sky condition.
 - viii. A certification signed by a suitably qualified lighting consultant to undertake luminance measurements.



8 Compliance Record

- a) The operator must keep a Compliance Record of the operation of the sign. This must be provided to the Head, Transport for Victoria within 5 days of a written request. The Compliance Record must include:
 - i. The sign's luminance (cd/m² or as a percentage of its maximum luminance) in minimum 10-minute intervals.
 - ii. The sign's photocell (light sensor) reading of the ambient light in minimum 10-minute intervals.
 - iii. The dwell time and transition time between successive images.

All record information must be time and date stamped to show the time of measurement.

Compliance Records must be maintained for a minimum of 12 months.

9 Upward Light Ratio

- a) Electronic signage must have an Upward Light Ratio (ULR) of less than 50% and the design must include facilities (such as integral baffles) to mitigate upward waste light.
- b) Externally illuminated floodlit signage must be top mounted (facing down).

Need more information?

Please contact the Department of Transport and Planning if you require more information, or visit our website <https://dtp.vic.gov.au/about/statutory-planning/signs>