

1. Purpose

- To provide direction and consistency in the management of external public lighting across the City of Yarra.
- To define objectives and standards for external public lighting in different areas across the City of Yarra.
- To identify appropriate standards to ensure the safety and security of the community.
- To improve the environmental performance of public lighting installations, particularly regarding the energy efficiency of lighting types with respect to reducing greenhouse gas emissions.
- To reduce the usage of mercury vapour lighting wherever possible and / or practical.
- To inform negotiations for supply of power and for supply of Operation, Maintenance and Repair (OMR) services to unmetered public lighting.
- To ensure that community safety standards, through the Crime Prevention Through Environmental Design (CPTED) Principles, are adhered to as part of all public lighting consultations and installations across Yarra.

2. Scope

The Public Lighting Policy is to address public lighting within the City of Yarra, where public lighting is defined as lighting in a public place with unrestricted public access. The lighting must not be associated with revenue earning or with any commercial enterprise of either a private or public nature.

Public lighting includes street lighting, lighting in open space (namely parks and gardens, carparks, bike paths) and feature lighting in commercial and industrial areas.

The policy may be tested by development of a public lighting trial, as outlined in Appendix 1.

3. Standards

The Public Lighting Policy supports the existing standards of practice for public lighting. The Essential Services Commission define the overarching guidelines in the Public Lighting Code (September 2001). There are also Australian Standards applicable to public lighting:

- AS/NZS 1158.0: 1997 Road Lighting Part 0: Introduction. (AS 1158.0 Road Lighting)
- AS1158.1.1: 1997 Road Lighting Part 1.1: Vehicular Traffic (Category V) Lighting – Performance and Installation Design Requirements. (AS1158.1.1 Road Lighting Category V)
- AS1158.1.3: 1997 Road Lighting Part 1.3: Vehicular Traffic (Category V) Lighting – Guide to design, installation, operation and maintenance. (AS1158.1.3 Road Lighting Category V)
- AS1158.3.1: 1997 Road Lighting Part 3.1 Pedestrian Area (Category P) Lighting – Performance and Installation Design Requirements. (AS1158.3.1 Road Lighting Category P)
- AS 4282 – 1997 Control of the Obtrusive Effects of Outdoor Lighting. (AS 4282)

3a. Categories of Lighting

All public lighting within the City of Yarra should meet or exceed the standards for Category V and Category P lighting.

- *Category V lighting* is applicable on roads where the visual requirements of motorists are dominant, eg: traffic routes
- *Category P lighting* is applicable on roads and other public outdoor areas where the visual requirements of pedestrians are dominant, eg: local roads, outdoor shopping precincts.

All lamps and fittings must comply with the standards of the two host distributors within the City of Yarra:

- Citipower Public Lighting Technical Standard CP 4702.
- AGL Public Lighting Technical Standard.

Requirements for both Category V and Category P lighting can be achieved by standard or non-standard lamps and fittings:

- Standard Lighting comprises of lamps, fittings and poles that are extensively used throughout the City of Yarra and are approved by Citipower or AGL as readily meeting standard lighting requirements.
- Non-Standard Lighting includes lamps, fittings and poles that are not extensively used throughout the City of Yarra. An example is where a developer of a residential, commercial or industrial estate chooses to install heritage lamps. Any non-standard lighting types must be approved by Citipower or AGL. The City of Yarra will not accept responsibility for maintenance of non-standard lighting types not approved by Citipower or AGL.

4. Related Policy

The Yarra Environment Strategy (December 2000) states a goal to improve energy efficiency of all council operations by 5% by 2005, and to purchase 15% of electricity from Green Power by 2005, increasing this percentage over time.

The Greenhouse Action Plan (May 2004) states Council's commitment to reducing greenhouse gas emissions associated with its own operations by 25% (from 2000 levels) by 2010. (NOTE: This goal could effectively be achieved by purchasing just over 50% of electricity for streetlighting from Green Power at a higher tariff, but the Greenhouse Action Plan promotes purchase of 25% Green Power combined with improving the energy efficiency of lighting types.)

The Safer Yarra Plan (November 2004) states Council's commitment to the safety of people and property through improvements to the built and natural environments. In order to achieve this, a strategy outlined in the Plan aims to ensure that Crime Prevention through Environmental Design

(CPTED) principles and guidelines are included in all planning processes and development of new assets or enhancement of existing assets.

5. Application of Policy

The amount and type of lighting for vehicles and pedestrians should meet the lighting standards. Also, as public perception of adequate pedestrian lighting will vary, pedestrian lighting should be assessed against:

1. The type and quantity of pedestrian and vehicular traffic in the area;
2. The security risk of the area, aiming to illuminate pedestrian areas to a degree that assists in creating a safe and comfortable visual environment for pedestrians at night;
3. The environmental implications of the lighting type and installation, utilising the latest design and technology to maximise efficiency and prevent unwanted effects like glare, blind spots and excessive light spill (as may be caused by unshielded light fittings); and
4. The colour rendition of the light, aiming to provide a light source and type that gives a natural appearance to the environment.

Unless otherwise specified, all standard public lighting will be supplied from an overhead supply. Underground supply will only be installed under exceptional circumstances and on a case-by-case basis, and must be approved by Citipower or AGL.

5a. Road Network Lighting

I. Arterial Roads

Lighting plans for arterial roads must be approved by VicRoads and the host distributor (Citipower or AGL). The level of lighting provided shall be in accordance with AS1158.1.1: 1997 Road Lighting (AS1158.1.1). The type of lighting will generally be 250 Watt High Pressure Sodium (HPS) or a lighting type producing similar lighting quality.

II. Major Roads

Major roads are classified as roads carrying over 2000 vehicles per day. The minimum requirement for lighting should be based on Category V lighting technical parameters as defined in AS1158.1.1. Lighting of major roads should focus on the visibility for the motorist. This will generally result in 150 Watt High Pressure Sodium (HPS) lanterns, unless the outcome of any lighting trial or documented research indicates a more sustainable lamp option.

Where two roads of different categories intersect, the minimum illumination requirements for the higher category road should apply.

III. Local Roads

Local roads are classified as roads carrying up to 2000 vehicles per day. The minimum requirement for lighting should be based on Category P guidelines and lighting technical parameters as defined in AS/NZS 1158.3.1.

Local roads in residential areas are generally used to distribute traffic or for residential access. Lighting in local streets should focus on pedestrian and cyclist movements rather than primarily on motor vehicles. It is important that lighting on local roads:

- provides a sense of security;
- provides adequate visibility; and
- is energy efficient.

In general, the minimum requirement for lighting in local streets should reflect the guidelines outlined in AS/NZS 1158.3.1. Lamps of greater wattage may be provided at cross roads.

IV. Local Area Traffic Management Treatments

Local Area Traffic Management (LATM) treatments are classified as traffic control devices of a restrictive nature such as roundabouts, road humps, chicanes, slow points. Lamps above these areas should be 150 Watt High Pressure Sodium (HPS), unless the outcome of any lighting trial or documented research indicate a more sustainable lamp option.

V. Right of Ways

Right of ways are generally only illuminated under special circumstances. If the usage of the right of way is redefined due to redevelopment, the developer is responsible for the capital costs required to upgrade the installation to the satisfaction of the City of Yarra and the host distributor (Citipower or AGL).

VI. Private Property Walls and Exterior lighting of buildings

Where a right of way or laneway is not wide enough to accommodate a standard lighting pole and installation technique, provision of lanterns on private property walls will be assessed on a case-by-case basis. Approval must be obtained from the host distributor (Citipower or AGL) for mounting and wiring techniques. The City of Yarra is also responsible for obtaining written permission from the owners of the property before connection is made.

Exterior lighting of buildings can enhance public lighting in some areas and so should be considered on a case-by-case basis, especially for large scale development. Exterior lighting should be:

- Compliant with the requirements for pedestrian lighting in AS/NZS 1158;
- Appropriately located and skilfully designed to highlight particular sections of the building facade or particular facade features, preferably integrated with awnings and other facade elements to supplement existing street lighting; and
- Compliant with conditions incorporated into a planning permit, requiring certain treatment of exterior lighting in particular areas or requiring lighting to be switched off or on between certain hours.

5b. Open Space Lighting

I. Parks & Gardens

Lighting in parks and gardens shall be designed and provided with consideration given to:

- The use of the park at night, eg: as a major walking route or access to other community facilities;
- The potential impacts of light spillage and glare on surrounding residents and local wildlife; and
- Energy consumption.
- Community safety guidelines, based on CPTED principles.

Lighting types that emit a highly visible white light to a directed area and consume less energy than mercury vapour lamps are preferred. Solar power lighting should also be considered, particularly stand alone lighting in areas without existing light poles.

The design, location and level of illumination of public lighting in parks should be chosen to minimise impacts on trees and wildlife (eg: lighting could be directed downwards to focus on footpaths or light fittings could be adequately shielded to minimise light spill). Where the habitat value of a park is the predominant attribute of the park, the potential impacts on native wildlife will be considered as the primary reason against the need for lighting.

All lighting should comply with the requirements outlined in AS 1158.3.1 Pedestrian Area and AS 4282 Control of the Obtrusive Effects of Outdoor Lighting.

II. Car Parks

Carparks are generally associated with sporting facilities, recreation areas and community facilities. Lighting types should be selected and positioned to ensure the whole car park is lit. An assessment of potential impacts on surrounding residents should be undertaken, including light spill and glare.

All lighting should comply with the requirements outlined in AS 1158.3.1 Pedestrian Area and AS 4282 Control of the Obtrusive Effects of Outdoor Lighting.

III. Bike Paths / Walking Routes

Shared bike paths and pedestrian walkways should be illuminated with standard lighting types that provide adequate white light or with solar power lights (either stand alone or lights connected to the grid).

The amount of light provided should be assessed against the use of the path at night, potential impacts to wildlife and the potential impact to surrounding residents.

For pedestrian bridges and underpasses, increased levels of illumination or lighting may be required to overcome the inherent insecurities associated with these structures, and to encourage people to feel safe to utilise the structures.

All lighting should comply with the requirements outlined in AS 1158.3.1 Pedestrian Area and AS 4282 Control of the Obtrusive Effects of Outdoor Lighting.

5c. Activity Area Lighting

I. Shopping Strips and Commercial Areas

Lighting should meet the minimum requirement prescribed in the standard for that street.

Additional lighting may be required where high night-time pedestrian activity is anticipated, a greater risk of crime is proven, or there is a need to highlight the installation. Light fittings that provide an adequate white light source are considered suitable.

Exterior lighting of buildings should be given particular attention in activity centres or retail strips. Lighting should be integrated with the design of the host building, complement existing street lighting and enhance the visual quality of the site.

All lighting should comply with the requirements outlined in AS 1158.3.1 Pedestrian Area and AS 4282 Control of the Obtrusive Effects of Outdoor Lighting.

II. Modifications to Activity Areas

Areas that have been, or will be, extensively modified to include landscaping, street treatments, or controlled traffic environments, may be lit. Consideration should be given to the anticipated use of the area at night, potential impacts to wildlife, and the potential impact to surrounding residents.

All lighting should comply with the requirements outlined in AS1158.1.1 Vehicular Traffic / AS 1158.3.1 Pedestrian Area and AS 4282 Control of the Obtrusive Effects of Outdoor Lighting.

5d. Non-Standard Lighting

I. Non-Standard Lighting in Residential and Commercial Developments

The installation of Citipower or AGL approved non-standard lighting in residential and commercial developments is subject to approval by the City of Yarra, to be determined at the time of planning permit application and processing.

When land is to be vested with the City of Yarra subsequent to the development, non-standard lighting will not be permitted in areas of unrestricted public access, unless there are statutory controls that apply to public lighting on the land in question.

II. Developer Options

Subject to approval from the City of Yarra, developers may choose to provide non - standard public lighting in one of the following methods:

- Supply and installation of Citipower or AGL approved non - standard fittings of similar style throughout the entire subdivision; or
- Supply and installation of Citipower or AGL approved non - standard fittings for key features in the development (eg: main access roads and parks) in conjunction with Citipower or AGL approved standard fittings for the bulk of the subdivision (eg: neighbourhood streets).

III. Infrastructure Maintenance Contribution

Any approved lighting installed in areas of restricted public access is outside the scope of the policy, and so maintenance of the lighting will not be the responsibility of the City of Yarra.

At the time of installation of approved non - standard lighting in areas of unrestricted public access, the developer shall:

- supply all initial stock of poles, lamps, photo electric cells and other fittings; and
- arrange for and meet the cost of all installation to the satisfaction of the City of Yarra and the host distributor (Citipower or AGL);

Under the Victorian Electricity Supply Industry guidelines, the City of Yarra remains responsible for the ongoing supply and replacement of non - standard poles and fittings. The supply authority will be responsible for the replacement of lamps and photo-electric cells, and may also supply labour to install replacement poles.

In order to compensate the City of Yarra for additional costs incurred for future maintenance and replacement of approved non-standard lighting, the developer will:

- accept responsibility for all maintenance and replacement of poles and lanterns until the expiry of the defects liability period or for 2 years, whichever is the greater, and replace damaged or non-operational poles or fittings within 48 hours from notice given by the City of Yarra or the host distributor (Citipower or AGL);
- lodge with the City of Yarra a non - refundable fee for each non - standard pole and lamp proposed for the estate of 20% of the purchase price of poles, lamps and fittings prior to the issue of the Statement of Compliance for the development.

Alternatively, an agreement under Section 173 of the Planning & Environment Act 1987 may be negotiated to define the responsibility for ongoing maintenance of approved non-standard lighting.

IV. Conditions of Approval

Approval for the use of non - standard lighting shall be subject to the developer obtaining written agreement from the host distributor for:

- the street lighting design;
- the type of the non - standard lighting infrastructure and fittings; and
- the applicability of the standard street lighting tariff.

Approval will be subject to:

- the suitability of the type, colour, size and shape of pole and fitting for the subdivision, as determined by the City of Yarra;
- all visible areas of poles and fittings being identical in colour and finish throughout an estate;
- a minimum lamp mounting clearance of 5.5 metres above the finished surface level; light fittings having integral photo electric cells and be manufactured in accordance with AS 3771;
- only one style of non - standard pole and lamp to be used within an estate;
- all poles and ferrous fittings to be hot dipped galvanised;
- painting of poles to be in accordance with the details prescribed in the Citipower or AGL Technical Standards;
- lighting layout, poles and fittings to be in accordance with AS/NZS 1158 and AS 3771;
- lighting types to be limited to those approved as non - standard poles and fittings by Citipower or AGL; and
- commissioning of the lighting to occur by Citipower or AGL only after receiving written notification from the City of Yarra.

6. Pricing

6a. Cost Implications

I. Capital and Recurrent Costs

Where a new light installation in a developed area is fully for public benefit, capital and recurrent costs are borne by the City of Yarra.

Where responsibility for a road is shared between VicRoads and the City of Yarra, capital and recurrent costs for new lighting will be based on the negotiated arrangements as described in the Transport Act 1983 and the Road Management Act 2004. Regulations and percentages of cost sharing arrangements are also determined by the Transport Act 1983.

Where responsibility for a road is shared with a neighbouring Council, capital and recurrent costs for new lighting will be shared equally by each Council (50% each).

II. Maintenance

Maintenance of the public lighting system should comply as a minimum with the Public Lighting Code requirements and shall be negotiated with Citipower or AGL.

Maintenance of light types and installations should aim for optimal performance of light types.

Regular, programmed tree pruning and maintenance is highly recommended to sustain the minimum light technical parameters for category V and category P lighting throughout the course of each year.

7. Consultation

The Environment Community Advisory Committee was consulted on a draft policy in late 2003. The consideration given to the environmental implications of public lighting incorporated in this policy are from comments received from Committee members.

The host electricity distributors, Citipower and AGL were consulted during the development of this policy. The Municipal Association of Victoria was also consulted in regards to the content of the policy and possible ways for its implementation.

8. Attachments

Appendix 1: Action Plan for Development of a Public Lighting Trial.

APPENDIX 1:

ACTION PLAN FOR DEVELOPMENT OF A PUBLIC LIGHTING TRIAL

AIM:

The action plan provides a means of testing the policy, by guiding and informing the development and implementation of a trial to replace existing lighting types in areas of Category P lighting with more energy efficient lighting types.

The aim of the public lighting trial will be to replace mercury vapour lamps (typically in residential areas) with a more energy efficient lighting type, and assess their environmental, financial and social performance.

METHOD:

1. Consider the lighting requirements for potential trial sites and identify feasible options for replacement lighting types.
2. Decide on a preferred trial site and replacement lighting type(s).
3. Estimate the financial and environmental costs and benefits of the trial.
4. Liaise with Citipower to confirm the feasibility of replacing lighting types into existing light fittings in trial areas
5. Implement the trial with support from or in partnership with Citipower.
6. Monitor the performance of lighting types according to lamp life, maintenance requirements, costs, and surveys to determine people's perceptions of the effectiveness of the lighting types.
7. Analyse results to inform negotiations for supply of power for public lighting.
8. Investigate a suitable site to trial stand alone solar lights in a park area.

NB1: An industry review is currently being conducted to define the advantages and disadvantages and operation and maintenance costs of potential replacement lighting types. The results of the review (expected mid 2005) can inform a trial in the City of Yarra.

NB2: A trial to assess the replacement of 80W mercury vapour lamps with 42W triphosphor lamps is proposed for Category P streets in selected areas in northern metropolitan municipal areas, by the Northern Alliance for Greenhouse Action, working in partnership with AGL. The results of that trial would become available in due course, and can inform a trial in the City of Yarra.

NB3: Liaison with the Steering Committee for the Inner Melbourne Action Plan (from Melbourne 2030) may lead to a trial being conducted over the footprint area with guidance from Citipower rather than an individual trial by the City of Yarra.