



QUEENSTOWN LAKES DISTRICT COUNCIL

SOUTHERN LIGHT PART ONE – A LIGHTING STRATEGY

MARCH 2017

DOCUMENT CONTROL








Document History	Date	Prepared by	Reviewed by	Approved by
Initial review of current strategy	June 2016	Deborah Lind / Andrew Edgar		
Re-write, separating technical, asset management and strategic elements	September 2016	Alison Tomlinson / Polly Lambert	Deborah Lind / Andrew Edgar	David Wallace
Final document pending Infrastructure Committee adoption	January 2017	Alison Tomlinson / Polly Lambert	Ulrich Glasner	Peter Hansby
Final document updated following peer review	March 2017	Alison Tomlinson / Polly Lambert		

TABLE OF CONTENTS

1. Introduction.....	4
2. Strategic Context	5
3. The Strategic Outcomes	
3.1 Safety and Security	6
3.2 Amenity – the visual aesthetic appeal.....	7
3.3 The Planned Environment	7
3.4 Feature and Festive lighting	8
3.5 Environmental Awareness.....	9
3.6 Collaboration	9
3.7 Cost Efficient and Value for Money	9
4. Review, Monitoring And Actions	10
5. Supporting Elements	10

1. INTRODUCTION

This strategy is to guide the Queenstown Lakes District community to deliver a consistent lighting environment that achieves the following community and strategic outcomes:

Street lighting is provided to ensure delivery of the ONRC level of service outcomes relating to:	Community Outcomes		Southern Light Strategy	Southern Light Outcome
	Sustainable growth management			Fit for purpose, specific zoning and community guidelines
Accessibility - The ease with which people are able to reach key destinations and the transport networks available to them, including land use access and network connectivity	Quality landscapes and natural environment with enhanced public access		The Planned Environment Environmental Sustainability	Recyclable materials and reducing carbon footprint
Safety – lighting is provided and maintained in a consistent and fit for purpose manner to facilitate safe movement and personal security	A safe and healthy community that is strong, diverse and inclusive for people of all age groups and incomes		Safety and Security	Facilitating safe movement and reducing criminal activities
Amenity – to provide confidence for active road users to travel at night	Effective and efficient infrastructure that meets the needs of growth		Collaboration Amenity	Stakeholder engagement
	High quality urban environments, respectful of the character of individual communities		Cost Effective	The visual aesthetic appeal
Cost Effective – optimal programmes which are efficient and affordable	A strong and diverse economy		Feature and Festive Lighting	Effectively utilising efficient technology
	Preservation and celebration of the district’s local cultural heritage			Notable features, artworks, monuments

This strategy considers, but is not limited to:

- Road vehicle and pedestrian lighting (public and private) - appropriate levels of lighting for safe movement of vehicles, pedestrians and cyclists
- Closed Circuit Television Camera (CCTV) - rendition of images
- Private and commercial lighting - building exteriors, illuminated signs

- Amenity lighting – public precincts, outdoor carparks, parks and open spaces, sports fields
- Promoting consistency of materials and fittings

This document is a revision of the 2006 Southern Light Strategy. It has separated the strategic objectives from the technical standards to facilitate the community and developers to deliver a comprehensive and unified approach to lighting in the district.

Complying with Southern Light, Part Two – Technical Specifications will assist in the delivery of the strategic outcomes in the Southern Light, Part One – A Lighting Strategy. Both documents should be read in conjunction with the following QLDC documents:

- Operative and Proposed District Plan
- Urban Design Guidelines
- Land Development and Subdivision Code of Practice.

The QLDC Land Transportation Asset Management Plan includes detail on the street lighting assets. Further details of asset management practices can be found in QLDC's Infrastructure Asset Management Strategy.

QLDC has a policy for street lighting on private roads which includes provision of separate power supplies.

The Southern Light Strategy reflects the intent of the Australian and New Zealand Standard - Lighting for Roads and Public Spaces (AS/NZ 1158) which outlines the performance criteria for road and public space lighting schemes can include any or all of three basic aims of:

- Facilitating safe movement
- Discouraging illegal acts and
- Contributing to the amenity of an area through increased aesthetic appeal

2. STRATEGIC CONTEXT

The Queenstown Lakes District is internationally renowned for its outstanding landscape. Outdoor lighting contributes to the appreciation of this landscape by night and enhances the safe enjoyment of the District. The quality of the environment is an important factor in supporting economic growth within the district.

The District is a recognised tourism destination which supports economic growth across the southern part of the South Island. As growth has increased new developments have transformed previously dark rural areas into bright urban areas and it has been recognised a consistent approach is required to support best practice.

As a premier adventure and tourist destination, the District attracts global and local events and festivals. QLDC recognises the need to enhance the experience of these events through the use of lighting whilst protecting the night skies.

Due to a lack of clear and up to date technical specifications there has been a disjointed approach to the implementation of street and amenity lighting infrastructure. There is currently a large variety of outdated lighting infrastructure which has led to high and complicated on-going maintenance costs.

Advancing technology in efficient and effective lighting infrastructure Light Emitting Diode (LED) has increased the capability of lighting whilst reducing whole of life costs and addressing environmental impacts e.g. reduced carbon emissions. It is important to maximise the opportunities this technology brings to enable and guide future development.

The community planning process including District Plan and Annual Plan submissions and Requests for Service have identified urban and rural communities wanting a level of lighting that provides safe and comfortable night time travel while protecting the night time sky and rural character of the district.

Some communities may seek to obtain Dark Sky accreditation from the International Dark Sky Association (IDA). Consultation will be carried out to understand the financial and technical implications.

Where historic deficiencies have been identified, QLDC intends to address street lighting within the district to align with this strategy.

3. THE STRATEGIC OUTCOMES

3.1. Safety and Security

Effective lighting facilitates the safety of night-time road users and pedestrians and helps reduce criminal activity such as vehicle crime and assaults. High quality lighting aids the use of CCTV.

QLDC's Safety and Security strategy is to facilitate safe movement and provide a sense of security.

1. Facilitating safe movement by:
 - Providing safe lighting for drivers to react to hazards and averting crashes
 - Improving the ability of pedestrians to recognise objects and to discern oncoming pedestrian's facial features and intentions. These contribute to better hazard identification and avoidance
2. Discouraging illegal acts by:
 - Prioritising lighting in areas of high crime risk and high public use
 - Reduce maintenance outages by utilising progressive technology
 - Effective lighting to support the use of CCTV

Safety and Security will be achieved by:

- Providing a good level of quality lighting within town centre streets including lanes and access ways
- Lighting off-street car parks and their connections
- Providing safe routes by lighting selected connections between activity generators, visitor attractions and accommodation venues
- Lighting parks and public spaces to promote the feeling of safety at night. Particularly those with a night time activity such as BBQ, public toilet, car park, clubhouse, playing field or significant visitor attraction such as Queenstown Gardens, St Omer Park or Roy's Bay, Wanaka
- Lighting public amenities such as toilets, transport hubs and their access routes
- Consideration shall be given to restrict the use of lighting within rural areas to that which is only essential in terms of traffic safety at road junctions, and visual guidance and orientation for pedestrians elsewhere. For example, flag lighting at rural intersections where there are identified safety concerns
- Potential QLDC non-compliance may be identified through Annual Plan submissions, Requests for Service and technical surveys/inspections, these will follow the Better Business Case framework

3.2. Amenity – The Visual Aesthetic Appeal

The visual aesthetic appeal of our night environment is influenced by several lighting related elements.

Sky glow, or atmospheric pollution, is caused by light being spilled upwards which is wasted light and creates a glow in the sky, limiting our ability to see the stars and surrounding landscape at night. This can detract from recreational and scientific night sky observations where views of major constellations such as the Southern Cross may be obscured.

The aesthetic appeal can be influenced by the spectrum of light. This can be utilised to define and express the distinct difference between town centres, heritage precincts, suburban neighbourhoods, parks and open spaces, and rural areas.

QLDC's Amenity strategy is to protect the night sky and aesthetic appeal of the District by:

1. Supporting recreational and scientific night sky observation by minimising sky glow
2. Minimising upward waste light
3. Defining the colour appearance of light to create an inviting environment
4. Controlling levels of brightness and glare
5. Controlling obtrusive and nuisance light spill
6. Defining consistent light fittings and materials

Amenity will be achieved by:

- Applying the technical specifications
- Ensuring potential QLDC non-compliance may be identified through Annual Plan submissions, Requests for Service and technical surveys/inspections, which will all follow the Better Business Case framework

3.3. The Planned Environment

This strategy aligns with the Operative and Proposed District Plan and urban design requirements. Where plans have been developed for specific communities, these shall follow the intent of this strategy, but variations may be considered.

QLDC's strategy for a Planned Environment is to:

1. Promote a structured approach to accommodate growth
2. Ensure lighting is fit for purpose and meets community expectations

This is achieved by:

- Complying with the Operative and Proposed District Plan which contains rules relating to the amount of light that may be "spilt" beyond a site boundary
- Adopting Community specific plans for key areas where there are heritage, cultural and natural features to consider outside the standard street lighting requirements. These plans should seek to avoid a "Disneyland" effect with lighting and focus on subtle lighting of outstanding features within the overall townscape. This low-key approach is consistent with other objectives of energy conservation and reducing "sky glow". Contact should be made with QLDC to ascertain current status of community specific plans
- Applying QLDC's urban design requirements in respect of consolidation, i.e. more intensive forms of urban settlement and sensitivity to noise and light spill.

- Effective parks lighting. QLDC provide a number of open spaces that produce experiences for the community and visitors who use the parks. Developers will be required to engage with QLDC Parks and Reserves early (at the Plan Change stage) to ensure an appropriate mix of parks/open spaces are provided. Principles of parks lighting include:
 - Parks and Open Spaces will only be lit as part of the street lighting network providing perimeter lighting to describe the boundaries of parkland, unless they form part of a recognised safe walking route (connection) or have a night time activity generator located in the park
 - Large areas of parks, reserves or open space will not be illuminated where it is not encouraged for people to go at night or is detrimental to natural habitats and breeding grounds of fauna
 - Sports ground lighting should encourage greater use of the sportsground, but should be sensitive to the night time environment with regards to minimising light spill and glare where appropriate.

3.4. Feature and Festive Lighting

QLDC has a number of existing public decorative lighting installations where cultural icons, significant landscape and architectural features benefit from careful and considered lighting. These include:

- Tree bud, and fairy lighting in Earnslaw Park
- War memorials (Wanaka & Queenstown)
- Queenstown Gardens Fountain
- Tree lighting in Brian Smith Park

Festive lighting can create and enhance short-term impact which enriches the experiences of events. QLDC has committed to provide significant investment to support both commercial and community events in the District. QLDC's vision for events is to promote and support a balanced portfolio of sporting and cultural events that meet community objectives for the District as a whole in respect of recreational activities, community infrastructure and economic growth.

QLDC's Feature and Festive strategy is to:

1. Provide the opportunity to celebrate and highlight the special features in the community without over saturation of lighting
2. Allow for special circumstances where upward waste light requirements may be exceeded by exception. Special dispensation must be approved by QLDC (Events Office) and will take into account the communities' intention to seek accreditation for Dark Skies

This will be achieved by:

- Feature Lighting
 - Decorative lighting of trees
 - Included in individual Reserve Development Plans or by specific agreement with Parks and Reserves
 - Bud and fairy lighting may only be permitted with prior approval from the QLDC Arborist
 - Limit permanent installations as they damage foliage, prevent effective maintenance and contribute to high glare

- Take advantage of shadow play e.g. down lighting rather than up lighting
- Use vertical surfaces such as walls and areas of dense vertical foliage to reflect light and to create a sense of boundary
- Strip lighting under pedestrian barriers to illuminate paths without wasted upward light
- Vested infrastructure (including bollards) must be cost effective and should be a nationally and readily available product, approved by QLDC
- Festive and Event lighting
 - Festive lighting may utilise QLDC infrastructure (i.e. cabling and controls) subject to QLDC approval. All associated costs are the responsibility of the event holder
 - Approval for temporary festive lighting displays must be sought from QLDC

3.5. Environmental Awareness

QLDC aims to promote and maintain an effective and efficient approach to sustainable lighting in the district.

QLDC's environmental strategy is to:

1. Reduce energy and greenhouse gas emissions
2. Decommission traditional gas discharge lamps
3. Reduce light pollution (covered under Section 3.2 - Amenity)

This will be achieved by:

- Utilising energy efficient technology
- Monitoring and assessing emerging technologies
- Identifying opportunities for energy efficiency through effective procurement of service providers and suppliers
- Minimise maintenance costs, asset replacement and reduce carbon emissions
- Traditional street lighting contains quantities of heavy metals such as mercury, which is a hazardous substance and is a bio-accumulative toxin. New technology, such as LEDs, avoid these complications
- QLDC will make careful consideration for the disposal of legacy products

3.6. Collaboration

Whilst QLDC is the major provider of public lighting on roads, parks and open spaces, civic buildings and monuments, the lighting of businesses, private buildings and homes or landscape features can impact on the overall lighting effect and quality of the environment.

QLDC's Collaborative strategy is to promote and support effective stakeholder engagement by:

1. Set a good example
2. Educate
3. Engage with stakeholders

This will be achieved by:

- QLDC's infrastructure, facilities and venues adhering to this strategy and complying with the technical specifications
- Providing consistency and alignment of QLDC's corporate plans and strategic documents
- Ensure the public is well informed by providing access to relevant strategies, technical specifications and urban design guidelines

- Support contractors with knowledge of lighting design principles and District Plan requirements, to specify and design lighting improvements
- Work with local organisations in protecting their community's light spill
- Work with the New Zealand Transport Agency (NZTA) as a co-investor who part funds the maintenance and operations of road lighting and provides public lighting on the state highway network
- Explore contractual shared service opportunities with neighbouring councils
- Potential areas for collaboration such as communities investigating Dark Sky Accreditation may be identified through Annual Plan submissions and Requests For Service, these will follow the Better Business Case framework

3.7. Cost Efficient and Value for Money

QLDC's strategy is to promote and deliver a cost efficient and affordable lighting network for the community.

This will be achieved by:

1. Implementation of the Southern Light Strategy
2. Providing clear technical specifications and design rules
3. Capital investment based on a robust framework for evidence based investment (Better Business Case Framework)
4. Facilitating and continually maturing asset management consistent with good industry practice (ISO55000) and as documented in the QLDC Infrastructures Asset Management Strategy
5. Robust contract management for operational and maintenance activities
6. Cost efficient procurement of suppliers and service providers

4. REVIEW, MONITORING AND ACTIONS

The Southern Light Strategy has been programmed in the QLDC Bylaws, Policies and Strategies Register for review in 2021.

Review and monitoring of the actions will be undertaken to ensure the strategy is being successfully implemented through the following methods:

- The QLDC Asset Management Performance Plan will be the repository of actions and monitoring and will reflect the actions of this strategy
- Continual review of community feedback through QLDC's Annual Plan and Long Term Plan
- Continual review of community feedback through QLDC customer satisfaction surveys and 'Requests for Service' process

5. SUPPORTING ELEMENTS

The following section lists the standards, regulations and QLDC associated documents applicable to the Southern Light Strategy.

All QLDC documents can be found on the QLDC website <http://www.qldc.govt.nz/>

The latest copies of standards and their amendments shall apply.

- QLDC Southern Light Part Two – Technical Specification
- QLDC Operative and Proposed District Plan Rules
- QLDC Land Transportation Asset Management Plan
- QLDC Asset Management Performance Plan
- QLDC Land Development and Subdivision Code Of Practice
- QLDC Parks Strategies and Reserve Management and Development Plans
- QLDC Urban Design Strategy
- QLDC Policy Lighting on Private Roads
- QLDC Queenstown town centre strategies
- AS/NZS 1158 Lighting for Roads and Public Spaces Set
- NZTA M30 & M26
- IPWEA Practice Note 11 2014
- Crime Prevention through Environmental Design (CPTED)
- ISO31000:2009 Risk Management Framework.
- ISO55000:2014 Asset Management
- Refer to the International Dark Sky Association (IDA) for general information and guidelines