

Region of Queens Land Use Planning Update

Light Pollution Mitigation

Background Report (5/7)

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INTRODUCTION

Topic Overview

Outdoor lighting plays an important role in modern communities. Abundant street and property lighting make it easier to navigate at night, provide a sense of safety and security, enhance architectural designs, and support outdoor facilities (such as sports fields or wharves) to operate at night.

Despite these benefits, excessive or poorly directed lighting can create light pollution by brightening the night sky in areas where it is not necessarily needed. This can reduce visibility of the stars, disrupt natural day-night cycles, and affect wildlife that rely on darkness for navigation, feeding, migration, and reproduction.

Reducing light pollution can provide a number of benefits. It helps protect natural ecosystems, preserves views of the night sky, and can enhance opportunities for nature-based tourism. This is particularly relevant in Queens, which is home to a diverse range of natural environments and is home to Kejimikujik National Park, which is designated as a

Dark-Sky Preserve by the Royal Astronomical Society of Canada.

As interest in dark-sky conservation continues to grow, many communities have begun exploring ways to reduce light pollution through improved lighting design and management practices as well as considering how their planning policies can help balance the benefits of outdoor lighting with the need to protect natural darkness.

Why is this a Topic of Focus?

While the current Municipal Planning Strategy (MPS) and Land Use Bylaw (LUB) contain regulations related to outdoor illumination, Council has expressed interest in exploring whether additional guidance or more detailed standards may be beneficial.

As previously mentioned, Queens has extensive natural areas and diverse wildlife habitats that would greatly benefit from the reduction of unnecessary light pollution by supporting ecological health and enhancing

experiences for residents and visitors who value the area's natural environment. At the same time, however, outdoor lighting does serve important practical purposes in the municipality. Many businesses and facilities rely on adequate illumination to operate safely and effectively, particularly those associated with the marine and fishery industry. Therefore, any changes to the existing regulations must carefully consider these operational needs.

The review of this topic provides an opportunity to explore whether additional lighting standards are warranted, and, if so, how they can be designed to balance environmental protection, tourism opportunities, public safety, and the needs of local industries.

Existing Policies and Regulations

The current MPS and LUB recognize the importance of reducing light pollution and protecting dark night skies. While the Municipality does not have a comprehensive dark-sky program or detailed lighting standards that apply to all development, both documents contain a number of policies and regulations intended to minimize the impacts of artificial lighting.

Municipal Planning Strategy

Within the MPS, Council acknowledges the value of dark skies and supports efforts to reduce light pollution. The MPS states that the Municipality will explore opportunities to improve lighting design in both municipal operations and private development. It also expresses support for the future development of a dark-sky program that could educate property owners about light pollution and encourage the use of lighting fixtures designed to minimize its impacts.

The MPS also requires that light pollution be considered as part of the planning review

process. Through the general planning evaluation criteria for development agreements and amendments to the LUB, Council must consider whether a proposal is premature or inappropriate due to light pollution and its impacts, particularly in the vicinity of the Kejimikujik Dark-Sky Preserve. Additionally, proposals subject to Site Plan Approval must be evaluated for their potential impacts on dark night skies.

Land Use Bylaw

The LUB contains a variety of regulations that address outdoor lighting, primarily through general performance standards, signage requirements, parking lot design standards, and Site Plan Approval criteria. As a general rule, exterior lighting on any property must be directed away from adjoining properties and public streets and must not create glare. Similar requirements apply to parking areas, where lighting must be arranged to direct illumination away from streets.

Several provisions also regulate illuminated signage. Signs may

be internally illuminated or illuminated through shielded downward-facing lighting, but flashing illumination is prohibited. Signs that interfere with driver visibility or traffic control devices are not permitted. Additional restrictions apply where commercial or industrial properties are located adjacent to residential or other sensitive land uses, with illuminated signage generally prohibited near shared property boundaries except for limited directional or functional signage.

The most detailed lighting requirements are found within the Site Plan Approval provisions of the Land Use Bylaw. Developments such as multi-unit residential buildings, nursing homes, commercial buildings, light industrial uses, parking lots, and retail lumber or home improvement yards must ensure that exterior lighting uses full cut-off fixtures that do not emit light above the horizontal plane. These developments must also ensure that lighting does not create glare on adjacent properties.

Introduce Lighting Curfews or Dimming Requirements

Rather than focusing solely on the design of lighting fixtures, the Municipality could also regulate *when* lighting is used.

Under this approach, certain non-essential outdoor lighting could be required to be dimmed, turned off, or reduced during overnight hours when activity levels are low. Motion sensors, timers, and adaptive lighting systems could also be encouraged or required for certain developments.

A recent example comes from the State of Maine, which adopted regulations requiring new outdoor lighting on public property to be dimmed during the night to help protect wildlife and dark skies. The regulations include exemptions for situations where lighting is needed for public safety, emergency response, sports facilities, temporary activities, or where lighting is otherwise required by law. This approach recognizes that the impacts of lighting depend not only on its brightness but also on how long it remains in operation.

Enhance Illumination Standards in Specific Areas

Another option would be to expand lighting regulations beyond the developments currently subject to Site Plan Approval and establish more detailed standards for outdoor lighting throughout the municipality. These standards could address matters such as fixture design, lighting temperature, and total illumination.

The Municipality could apply these standards in several ways. One approach would be to establish municipality-wide requirements that apply to all new development. Alternatively, enhanced standards could be targeted to specific areas where dark skies are particularly important, such as lands surrounding Kejimikujik, environmentally sensitive areas, or locations with tourism value related to nature and stargazing.

Another approach would be to tailor standards based on zoning. For example, stricter requirements could be applied in rural and residential areas

where preserving dark skies is a priority, while greater flexibility could be provided in commercial and industrial areas where higher levels of illumination may be necessary for safety and operations.

KEY QUESTIONS

Questions to Consider

Community input will help us determine how best to balance environmental protection, public safety, tourism opportunities, and the operational needs of local businesses and industries. The following questions are intended to guide discussion and gather feedback:

- + How important are dark skies to you and your experience of living in or visiting Queens? Do you believe the Municipality should take additional steps to reduce light pollution, or are the current regulations sufficient?
- + Have you experienced issues related to excessive or poorly directed outdoor lighting, such as glare, light trespass, or impacts on your enjoyment of the night sky?
- + Are there particular industries, facilities, or activities that you think require flexibility in lighting regulations to operate safely and effectively?
- + Do you have any other ideas or concerns related to light pollution that should be considered as part of this review?

