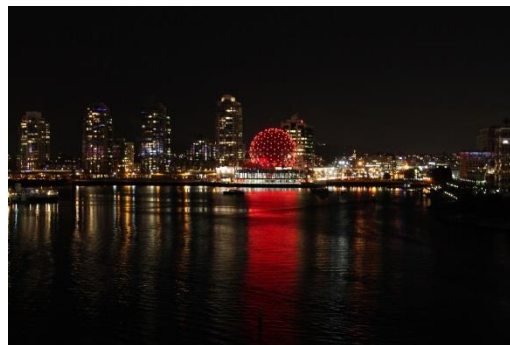
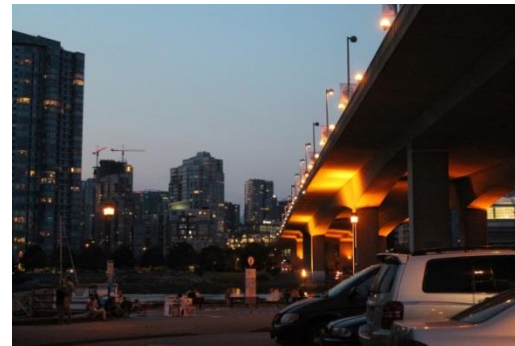


Developing an Outdoor Lighting Strategy for the City of Vancouver: Executive Summary

Greenest City Scholar Research Project, August 14, 2015



Greenest City Scholar

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Context

With the knowledge, technology and creativity available today, there is an opportunity to truly tailor outdoor lighting to evolving community needs, in a way that is thoughtful, intelligent, elegant, and that carefully manages resources. Increasingly, there is an understanding among decision-makers, lighting designers, planners, engineers, architects, artists, scientists and educators that well-designed outdoor lighting can contribute to an accessible city, healthy and liveable city. It can create a sense of place and community, and encourage positive and creative night-time activities. At the same time, there is recognition of the need to better understand and manage the negative impacts of unnecessary outdoor lighting at night on human health and safety, and on wildlife.

On February 3, 2015, Council approved the *Vancouver Outdoor Lighting Strategy* motion moved by Elizabeth Ball, that the City of Vancouver begin preliminary work towards developing an Outdoor Lighting Strategy: “Towards enacting a healthy, safe and energy efficient outdoor lighting strategy in order to control harmful outdoor lighting, set standards for outdoor lighting and provide for the designation of dark-sky preserves.” Locally, and around the world, a variety of tools are being used to guide responsible outdoor lighting, including: legislation, outdoor lighting design guidelines, crime prevention through environmental design (CPTED) guidelines, education and awareness programs, pilot projects, and monitoring and evaluation approaches. These include:

- *Legislation*: Examples of using legislation to set outdoor lighting standards, or curtail light pollution can be found at the City of New Westminster, Corporation of the District of North Vancouver, Corporation of Delta, District of Saanich, and the City of Calgary, Flagstaff, Arizona, the State of New York, Washington State, and the Joint International Dark Sky Association - Illuminating Engineering Society Model Lighting Ordinance.
- *Sign Bylaws*: Lighting specific content in sign bylaws can be found at the City of Edmonton, City of Calgary, and City of Toronto.
- *Comprehensive Outdoor Lighting Strategies*: the City of Edmonton, Strathcona County, and the City of Melbourne.
- *Guidelines on bird-friendly development, and effective lighting*: City of Toronto, City of Chicago.
- *Crime Prevention Through Environmental Design*: the City of Saskatoon has developed CPTED design guidelines that provide suggestions around outdoor lighting.
- *Roadway Lighting Standards*: standards are set by the Illuminating Engineering Society (IESNA)’s *American National Standard Practice for Roadway Lighting* and the Transportation Association of Canada (TAC) *Guide for the Design of Roadway Lighting* (2006).
- *Lighting Master Plans*: the City of Edmonton’s is developing a Creative Winter Lighting Strategy. Lyon, France has a lighting master plan.
- *Dark Sky Parks*: the Royal Astronomy Society of Canada (Dark-Sky Preserves and Urban Star Parks) and International Dark-Sky Association International Dark-Sky Places program provide guidelines for creating light-restricted urban and rural areas for astronomy.
- *International Awareness Campaigns*: 2015 is the United Nations’ International Year of Light.
- *Citizen Groups*: the Globe at Night invites citizen-scientists to measure night-sky brightness and share data online. NiteBrite (Vancouver) and the International Dark Sky Association share educational programming and resources.

An *Outdoor Lighting Strategy*, if acted up on, could improve the quality of life of all who live, work, and play in the City of Vancouver, and its surroundings by: reducing impacts of unnecessary outdoor lighting on human health, reducing impacts of outdoor lighting on wildlife, reducing energy use and costs, reducing greenhouse gas emissions, improving the quality of public space, and improving the quality of service. Careful management of outdoor lighting is necessary to protect the health, safety, energy security, environment, culture, and general welfare of all, now and for future generations.

Research Objectives

This Greenest City Scholar research project is in support of *Greenest City Action Plan* Goal 2: Climate Leadership, which aims to reduce unnecessary waste of outdoor lighting and energy, with the potential for reduced GHGs. Work was carried out between May 1 and August 14, 2015. The objectives of this research were to lay the preliminary research groundwork for developing the *Vancouver Outdoor Lighting Strategy* by:

- Providing research and specific local recommendations and observations, in support of developing the *Vancouver Outdoor Lighting Strategy*, based on research of both local and international precedents.
- Identifying existing knowledge, guiding values, opportunities, challenges and stakeholders, based on staff and public input.
- Identifying precedents and best practices for outdoor lighting strategies from other cities.
- Recommending ways in which City staff can move forward on the *Vancouver Outdoor Lighting Strategy, Council Motion*.

Methods

Research methods employed were largely qualitative, and included open-ended informational interviews with a range of city staff and members of the public to understand existing assets and specific local recommendations and observations, including: initiatives, knowledge, ideas and perceptions related to outdoor lighting. Public feedback, based on 311 records, was analyzed for themes and spatial patterns.

Outcomes

The outcomes of this research are an internal document, for use by City of Vancouver staff, towards the *Vancouver Outdoor Lighting Strategy*. This initial gathering of input provides a starting point for anticipating and understanding the diversity of information, perspectives, interests, concerns, and ideas that will emerge as further research, public outreach and engagement is done around the *Outdoor Lighting Strategy*. It is essential that a more in-depth, rigorous staff and public engagement process be conducted, going forward, and that the creation of the strategy be coordinated to balance this diversity of perspectives.

Acknowledgements

This research was carried out by Kathryn Lennon, for the Greenest City UBC Sustainability Scholar Program, under the mentorship of Kathryn Kolbuch, Branch Head, Streets and Electrical Design Branch, with assistance from Phil Wong, Superintendent, Electrical Design, and additional input from numerous staff at the City of Vancouver.

**Due to the confidential nature of this research, only the Executive Summary can be shared publically at this time.*