

EXECUTIVE SUMMARY

Artificial light impacts orientation, use, safety and the visual quality of public spaces after dark. While fulfilling technical and security requirements – facilitating user movement along pathways and illuminating dark spaces in the public realm – artificial light also serves social and aesthetic functions by influencing how lit spaces are used and perceived. Urban Planners work to create safe and engaging public spaces, and lighting design is of critical importance to the vitality of these spaces. Yet there is little academic research, government support or best practice case studies on lighting design in North America from a planning perspective.

In the City of Vancouver urban planners are beginning to play an increased role in coordinating the illumination of public spaces for the purpose of reinforcing comprehensive and cohesive urban design. Combining lessons learnt from a review of international best practices and systematic self-observation of Vancouver’s Southeast False Creek, this report assesses the physical and perceptual qualities of urban lighting in Vancouver. Study analysis identifies key components of a successfully lighting plan and explores how plan elements translate to real use in the public realm. Recommendations are offered for the purpose of advancing strategies, concepts and coordination of lighting in municipal plans.

Research Methodology

Research methods for this report include a review of international lighting master plans, municipal document analysis and systematic self-observation of a study area supported by photographs, field notes, narratives, imagery and application of evaluation criteria.

Eight common themes, listed right, emerged from the three reviewed lighting master plans. These themes were compared with City of Vancouver planning documents to systematically analyse plan principals and concepts.

To assess how lighting strategies are perceived and interpreted by users of public spaces, an evaluative criteria was used to analyse observation of the case study area in Southeast False Creek.

COMMON THEMES

1. Identity and Heritage
2. Image and Elements
3. Environmental Considerations
4. Shadow, Darkness and Mystery
5. Illumination Levels, Skyglow, Over Lighting and Glare
6. Colour, Sound, Motion and Art
7. Safety and Connectivity
8. Collaboration, Innovation, Research and Monitoring

Context

Vancouver is compactly built upon 129 km² of hilly topography, and set on a peninsula nestled between mountains, ocean and rivers. The City's natural setting is complemented by densely packed towers and a continuous public waterfront.

The study area in Southeast False Creek is a waterfront, remediated brownfield site centrally-located southeast of downtown Vancouver. The area was slated for residential development in the early 1990s, and the central Village neighbourhood, including the observation site was largely completed by 2010.

Observations were conducted in the Village's Shipyard plaza and promenade. The study area was selected due to the variety of luminaires, ground surfaces, routes and access points within the field of observable area.



Context Map denoting Study Area
Source: bcwireless.net/moin.cgi/VancouverMaps

Observation Site at Shipyard Plaza and Promenade
Source: VanMap, online

Lessons Learnt

Creating maximum value from urban lighting begins early in the development review process. Instituting detailed design objectives for urban lighting at the planning stage coupled with monitoring existing installations to better understand where improvements can be made, increases the likelihood of successfully meeting plan objectives as well as patron needs.

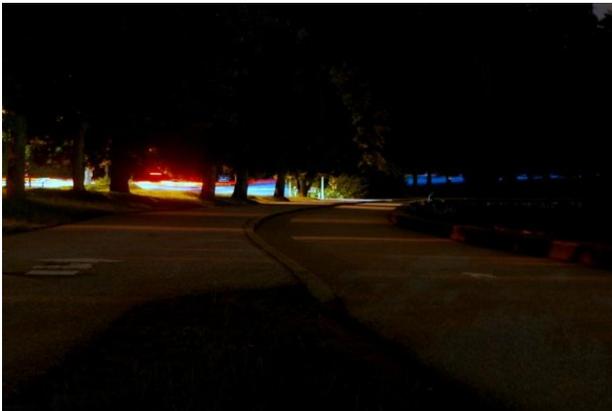
The common plan components identified from lighting master plan analysis influence the type, technologies and placement of luminaires in order to direct the movement and shape the perception of local residents and plaza users. In application, however, plan components are not equally evident. Aesthetic innovations were the most recognizable, such as the coloured luminance from the steel rib luminaires in Shipyard plaza. The functionality of lighting was more

difficult to observe, and therefore was determined by a measured of repeated, fluid use of lit spaces. For example, the bull rail luminaires create appropriate and well-directed light for the deck surfaces and as a result maintained the most frequent use.

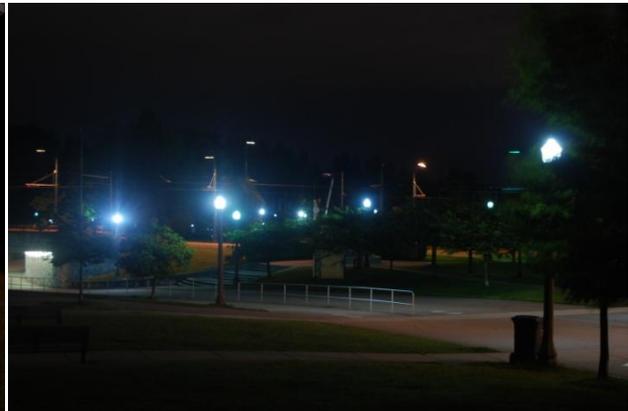
Analysis of a case study site provides insight into the strengths and weaknesses of public lighting policy in Vancouver. Learning from Southeast False Creek, recommendations address urban lighting at a municipal level.

Recommendations

- Monitor and evaluate existing lighting strategies.
- Seek opportunities for additional illumination.
- Explore innovative luminaire technologies from best practice case studies.
- Investigate performance-based standards for streetlights.
- Develop a lighting master plan.



Unlit Stanley Park seawall 2012 (Vancouver, BC)



Glare from Lost Lagoon plaza 2012 (Vancouver, BC)



Concept: Lake-front walk (Jyväskylä, FI)
Source: *Jyväskylä, 2009*



Concept: Above lit cycle path (Funen, DK)
Source: lighting.philips.com