

DECISION/DIRECTION NOTE

Title: Downtown Decorative Street Lighting Working Group Recommendation

Date Prepared: September 24, 2019

Report To: Committee of the Whole

Councillor and Role: Councillor Debbie Hanlon, Tourism, Culture & Immigration

Ward: Ward 2

Decision/Direction Required:

Decision is required to determine the next steps the City will take with regards to a potential conversion of the existing high-pressure sodium (HPS) ornamental street lighting in the Downtown to LED based illumination.

Discussion – Background and Current Status:

In the spring of 2019 Council established a Working Group of stakeholders to explore the subjective options available to potentially replace the existing decorative globe lights in the Downtown with LED fixtures and tasked the group with recommending:

- Whether to proceed with bulb only replacement (minor illumination improvement only) or replace the fixtures entirely.
- If applicable, what aesthetic design criteria would be specified when procuring new fixtures.
- Possible cost sharing opportunities among downtown interests.

The working group with representatives from the City's Built Heritage Panel, the City's Arts Advisory Committee, Downtown St. John's, the George Street Association, and City Council began meeting in the fall of 2019 to evaluate the different approaches to improving the downtown decorative street lighting and begin work on recommending how to move forward with the initiative.

The group explored the option of keeping the existing fixtures and replacing the existing HPS bulbs with LED bulbs. Trial LED bulbs were tested in some select existing fixtures to measure the change in lighting levels. It was determined that replacing the bulb only yielded minor improvements in lighting levels and that the high wattage of bulbs required to achieve this small improvement would significantly reduce the energy efficiency and cost effectiveness of this approach. The existing globe fixtures cast light up and out of the sphere. Replacing the bulbs inside these fixtures does not improve how the light is cast onto the street and sidewalk.



The option of replacing the existing fixture with an LED retrofit on top of the existing poles was considered. The working group discussed what the replacement fixture should look like in the context of the downtown and whether keeping a globe style was of importance. Historical or aesthetic significance of the globe fixture was not identified. Furthermore, it was recognized that the inefficient design of the globe does not support keeping the fixture style. The working group discussed what style of fixture would best suit the Downtown context while still providing efficient illumination that reduces light pollution. The group expressed interest in selecting a fixture of a similar style to the LED ornamental lights found in the City's parks and in front of City Hall. The following set of required aesthetic criteria were selected to describe a suitable replacement fixture:

- Four-sided fixture;
- Black in color, including decorative elements;
- Angular housing;
- Design that includes a pointed decorative finial; and,
- Clear fixture lens or only slightly frosted, not opaque.



In order to confirm that replacing the existing fixtures can achieve the desired improvement in lighting levels, a 60-watt test fixture was provided by a manufacturer and installed in the downtown at the corner of George Street and Adelaide Street.

Lighting levels on the street were measured before and after the new LED fixture was installed. It was found that lighting levels in the area of the new fixture more than doubled next to the fixture and almost tripled at approximately 5m from the fixture. This illumination improvement indicates that recommended street lighting levels for the Downtown can be achieved by replacing the existing globes with updated LED fixtures.

In addition to measuring the change in lighting levels produced by the replacement fixture, the glare produced by the sample fixture captured on video security feeds was also evaluated. A significant amount of glare is produced by the existing globe fixtures that can obscure security feeds.

The test location was chosen so the fixture would be near a Royal Newfoundland Constabulary security CCTV camera. The RNC provided still 'before' and 'after' footage captures, shown below on the left and right respectively, to test if the amount of glare produced could be improved by replacing the existing globe with a fixture style that casts less light upwards towards the cameras. As shown in the pictures and confirmed by the RNC, the new fixture style improves the quality of footage captured. It was noted that while the still images provided are of lower quality, when viewing the video recordings, the difference is much more obvious.



This reduction in glare and improvement in lighting levels would support the goal of this project to improve personal security and safety in the Downtown.

Cost sharing opportunities and possible energy rebates were explored for this potential project. City staff contacted Newfoundland Power regarding their takeCHARGE program. While the project does not qualify for takeCHARGE incentives, the City may be eligible for a \$7,500 grant through the takeCHARGE of Your Town contest. The application deadline for this program has been postponed until further notice in light of the current COVID-19 situation, and the 2020 contest requires funding be spent by the end of the year. If Council chooses to proceed with this project, an application could be submitted next year assuming a similar program is offered.

As a key stakeholder of this initiative, Downtown St. John's has participated in this working group consultation and has committed to financially partnering with the City on this project.

Key Considerations/Implications:

1. Budget/Financial Implications:

The 2020 capital budget had originally allocated \$291,938 for this project but this funding has since been deferred in light of fiscal constraints caused by COVID-19. Downtown St. John's has committed to a 50/50 partnership sharing municipal costs up to a maximum of \$300,000 to be paid back through the BIA Levy over five years once funding for the initiative becomes available.

The cost of the project will depend on the price of the replacement fixtures purchased. It is estimated the cost to purchase and install the fixtures will be approximately \$575,000 and that the more efficient fixtures could save about \$9,000 in energy savings and \$17,5000 in maintenance savings annually, based on current electricity rates.

2. Partners or Other Stakeholders:

Downtown St. John's, George Street Association, Built Heritage Experts Panel, Destination St. John's

3. Alignment with Strategic Directions/Adopted Plans:

While this initiative is not currently an action item for 2019 from the Strategic Plan, improving the downtown street lighting could contribute to GOAL: M2 – "Improve safety for all users on a well-maintained street network" thereby driving the City's Strategic

Direction “A City that Moves”. Depending on the direction of Council this could be explored as a future initiative.

4. Legal or Policy Implications:
n/a
5. Privacy Implications:
n/a
6. Engagement and Communications Considerations:
Downtown Stakeholders will continue to be consulted as the project proceeds.
7. Human Resource Implications:
n/a
8. Procurement Implications:
Any purchasing would adhere to procurement legislation and policy.
9. Information Technology Implications:
n/a
10. Other Implications:
n/a

Recommendation:

That Council replace the existing decorative globe HPS fixtures with new LED fixtures that meet the aesthetic requirements developed by the Downtown Decorative Street Lighting Working Group in partnership with Downtown St. John’s once funding for the project becomes available.

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Report Approval Details

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Attachments:	- Downtown Decorative Street Lighting Letter.pdf
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This report and all of its attachments were approved and signed as outlined below:

No Signature found

Garrett Donaher - Oct 6, 2020 - 5:00 PM

Scott Winsor - Oct 7, 2020 - 9:23 AM

Jason Sinyard - Oct 7, 2020 - 10:36 AM