STAFF REPORT

THE CORPORATION OF THE TOWN OF COBOURG

Report to:	Mayor and Council Members	**Priority:**	☒ High ☐ Low
Submitted by:	Laurie Wills Director, Public Works lwills@cobourg.ca	**Meeting Type:** Open Session ☒ Closed Session ☐	
Meeting Date:	**August 23, 2021**		
Report No.:	Public Works-057-21		
Submit comments to Council			

Subject/Title: **Downtown Streetlight Fixture and Pole Decision**

RECOMMENDATION:

THAT Council approve Option 1C as the preferred downtown streetlight fixture and pole style; and,

FURTHER THAT Council direct Staff to proceed with the replacement of all downtown streetlight fixtures and poles in 2021 at an estimated cost of $500,000 which is within the 2021 budget to be funded by debentures.

1. STRATEGIC PLAN

NA

2. PUBLIC ENGAGEMENT

- Public Works Divisional Budget meeting presentation December 15, 2020.
- Engage Cobourg survey July 15 to July 30, 2021.

3. PURPOSE

For Council to provide direction to Staff regarding the preferred fixture and pole style for the downtown streetlights as well as how and when the replacements are to be implemented.

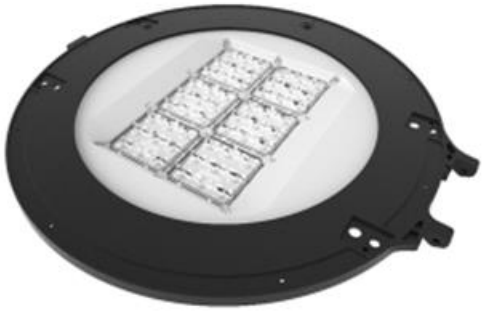
4. ORIGIN AND LEGISLATION

Through the 2021 budget deliberations, Council approved $500,000 to begin replacing the downtown streetlights following public consultation regarding style options.

5. BACKGROUND

Cobourg's downtown streetlight fixtures were first installed between1986-2001 and were then retrofitted in 2009 to suit an induction lamp that was ahead of its time upon installation and was more efficient than the previous high pressure sodium lights. The typical lifespan of the induction lights was expected to be 60,000-70,000 hours (16.5 years). The induction technology has not advanced, especially in comparison to newer LED technology, which means replacement parts are no longer readily available and in consideration of the age and poor condition of the fixture, repairs are no longer viable.

The Town of Cobourg is switching to LED streetlights across the community to extend the lifespan of the lights, reduce energy consumption and save costs. The lifespan of an LED light is expected to be 70,000 - 100,000 hours and consume roughly half of the energy of the induction lights while providing equal or more light output per fixture. These new LED light fixtures are the most up to date technology and are compliant with dark sky requirements as is very typical standard for all new streetlights everywhere now. The ‘bulbs’ are not like typical light bulbs but are actually a flat board that casts the light downwards versus horizontally from the open cavity of the fixture as illustrated:



The proposed LED colour temperature is 3000 kelvin which is a much warmer light colour than the first LED’s on the market (4000+ kelvin) and projected a cold/blue light. The example light locations around Town that were provided on Engage Cobourg have the 3000 kelvin lamps already installed for people to view them in person. For reference, the colour temperature for a nice warm light in a household is 2700 kelvin. Anything less than 3000 for street lighting is not recommended. This latest technology LED style fixture is very customizable for light coverage to ensure proper lighting for both pedestrians and vehicles as well as limiting spill where it should not be (upper apartments on King Street). Before the fixtures are installed, the supplier will conduct a photometric review of their placement to ensure the pole height and light coverage is adequate.

The Town has 3300 streetlights and therefore a dramatic decrease in operating costs will not happen until the majority have all been replaced. Currently the utility bill for streetlights is approximately $200k annually. Old fixtures that are removed could potentially be reused for parts elsewhere if they are in good enough shape and do not break upon being removed (they have become very brittle).

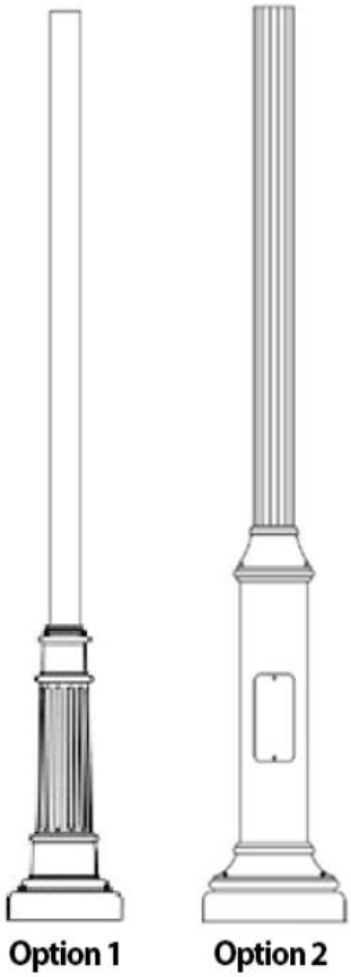
The new poles are designed to carry specific weights and accessories including specific banner sizes (smaller than current). The old poles were likely designed for certain types of accessories as well, but they are now over 20 years old and standards have changed as to the weights and dimensions of allowable accessories.

The following pole and fixture styles for the downtown were narrowed down by Staff in consideration of costs and aesthetics.

Pole Options

Option 1: Replace poles with 4" steel pole on existing concrete base

This proposed pole option is a stronger material than aluminum and can utilize the existing concrete base meaning there is no requirement to disturb the surrounding sidewalk. The steel pole has a smooth wall as opposed to the more decorative fluted pole style that currently exists downtown. This option does come with a 39.5" tall, decorative base that will cover the steel bolts that the pole attaches to at grade. The steel pole will be capable of accommodating the existing accessories however it is still strongly recommended that the banner size be reduced especially if any are being considered for replacement in future. The unit cost for the supply and installation of this pole type will be approximately $2,650.



Option 2: Replace poles with 5" fluted cast aluminum pole on new concrete base

The final option is the most expensive however the style of the pole is the most like the existing pole style and will be strong enough to accommodate the existing accessories. Not only are the poles more expensive but the existing concrete base is too small and will have to be replaced meaning, the surrounding sidewalk must be removed and reinstated. The unit cost for the supply and installation of this pole type will

be approximately $8,000 due to the extensive amount of removal and replacement of existing concrete around the pole base.

For either option, Staff will ensure that there is a standard operating procedure in place that dictates the specifications of any accessories being considered by Parks (baskets/floral arrangements) and DBIA (banners). Both pole options are black in colour.

Fixture Options

Streetlight suppliers have dozens or hundreds of style options. The Hudson style (Option C) was chosen because it was the most economical style that bared the closest resemblance to the fixtures in the newer development areas. The Cartier style (Option B) is the most like the existing heritage lights downtown and the Villa Maria style (Option A) is a very different and more modern style from the other two to provide a new look for consideration. These new fixtures are also approximately half the weight of the old fixtures which further reduces the load on the poles.

The unit cost to supply each fixture type is as follows

Option A Villa Maria: $1,200
Option B Cartier: $1,650
Option C Hudson: $700

Installation cost is the same price for each style and is not included in the unit cost.

Installation

The Town currently has a contracted agreement for streetlight maintenance work which includes the replacement of fixtures and poles. This contractor was hired through the competitive procurement process and they were to provide us with fixture and pole supplier alternatives and prices since we were made aware by our previous maintenance contractor that the induction fixtures had to be replaced and we also did not have a supplier for the replacement decorative poles in the downtown. This contractor will be completing the work for the downtown replacements and the selected supplier will be Cyclone Lighting, a Canadian

manufacturer located in Montreal who provide a 10-year warranty on their products. The supplier of the lights will conduct a photometric design that takes into consideration the street type, width, traffic volume, sidewalk width, backspacing to store fronts, pedestrian volume, pole spacing (single or both sides of the street as well as distance between poles), pole height and existing obstructions such as trees or other items that might interfere with light projection.

6. ANALYSIS

The results of the Engage Cobourg survey indicated 126 participants who voted as follows:

Pole Style

- Option 1: Smooth 4" steel pole 78.6%
- Option 2: Fluted 5" aluminum pole 21.4%

Fixture Style

- Option A: Villa Maria 15%
- Option B: Cartier 12.5%
- Option C: Hudson 72.5%

Implementation

As noted in the budget presentation from December 15, 2020, there are several different replacement approaches that Council can choose from:

1. Replace all downtown fixtures and poles at one time to maintain a consistent aesthetic and light distribution.
2. Replace all downtown fixture/pole combinations at one time. Replace remaining pendant style fixtures that are not on decorative poles, as needed (upon lamp burn out).
3. Replace fixture/pole on King Street and replace lights on other streets as needed (upon lamp burn out).
4. Replace all as needed.

It is recommended to proceed with implementation option 1 or 2 for the replacement of all downtown fixtures that are on top of decorative poles at one time. Not only will this maintain a pleasant and consistent aesthetic but also will ensure adequate light coverage for pedestrians and vehicles. If the lights are of different brightness, there may be darker spots remaining and it may also be distracting. Should the remaining downtown lights that are on poles be replaced as needed, it is also recommended that the old poles are not permitted to have banners or hanging baskets.

7. FINANCIAL IMPLICATIONS/BUDGET IMPACTS

There are approximately 100 poles with hanging baskets and banners in the downtown area and approximately 65 are located on King Street. The remaining

fixtures in the downtown are not on decorative poles but instead are hanging from a hydro pole and are considered a 'pendant' style hanging fixture.

A summary of estimated costs for all options is as follows (excl. tax):

Option	Fixture Type	Total $	King Street Only
1	A	$ 553,800.00	$ 248,625.00
	B	$ 628,375.00	$ 279,500.00
	C	***$ 479,225.00***	***$ 217,750.00***
2	A	$ 1,291,600.00	$ 601,250.00
	B	$ 1,366,175.00	$ 632,125.00
	C	$ 1,217,025.00	$ 570,375.00

Council should also be aware that there is an urgency to order a large supply of fixtures and poles immediately as Staff have been advised that costs per unit are increasing in September from the estimates provided to date (due to pandemic related material price increase).

Poles and Fixtures

Option 1C for the pole and fixture style was chosen by members of the public through Engage Cobourg which amounts to approximately $480,000 plus tax.

Implementation

Implementation Option 1 will cost $480,000 plus tax which falls within the 2021 budget allocation of $500,000. This plan assures that all the old poles are removed and replaced at the same time and can all be decorated with the flower baskets and banners starting again in 2022. Having a consistent date of replacement for streetlight assets in the downtown area will also simplify asset management data tracking and maintenance activities.

Implementation Option 2 will cost approximately $456,000 to replace all pole/fixture combinations all at once while leaving the remaining pendant fixtures to be replaced as needed. There are approximately 21 pendant fixtures located on existing hydro poles on George Street and Hibernia Street.

Implementation Option 3 will cost approximately $220,000 to replace all pole/fixture combinations all at once on King Street while leaving the remaining fixtures and poles to be replaced as needed. There remains a risk that the remaining old poles will fail before the lamps fail. Old poles remaining on side streets would not be accessorized until after they are replaced. This option will be challenging to keep track of which poles were replaced and when in order to plan for accessories the following year and track for asset management. It is likely that poles would not be accessorized until after all of the poles on each street have been replaced in order to present a consistent streetscape of decorated poles.

Implementation Option 4 will start at a minimum cost of $480,000 to replace all poles and fixtures as needed however the costs will increase year after year and budgeting will be challenging without knowing when the lamps will burn out or how

much longer the poles will last. There remains a risk that the remaining old poles will fail before the lamps fail. Old poles remaining would not be accessorized until after they are replaced. This option will be challenging to keep track of which poles were replaced to plan for accessories the following year and track for asset management. It is likely that poles would not be accessorized until after all the poles on each street have been replaced in order to present a consistent streetscape of decorated poles.

8. CONCLUSION

Proceeding immediately with the replacement of all the downtown streetlight fixtures and poles, as described as Fixture and Pole Replacement Option 1C and Implementation Option 1, is the most cost-effective approach in order to avoid supply and installation cost increases. Having a consistent colour and coverage of lighting for pedestrians and vehicles is also the most aesthetically pleasant and safest approach.

Report Approval Details

Document Title:	Downtown Streetlight Fixtures and Poles - Public Works-057-21.docx
Attachments:	
Final Approval Date:	Aug 13, 2021

This report and all of its attachments were approved and signed as outlined below:

Tracey Vaughan, Chief Administrative Officer - Aug 13, 2021 - 1:41 PM