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To: "Shelley, Lisa" <ls Shelley@oak-park.us>

Subject: Agenda comments

RES 19-232 and RES 19-233. LED. I would like to pull this for the discussion of various alternatives to the actual lighting distribution and discuss associated costs and payback time.

Staff Response: John Wielebnicki, Public Works Director

To provide context to staff's recommendation for the proposed Village wide residential street lighting lamp replacement project to LED lighting please find the following related to staff rationale and costs.

Rationale:

Staff's approach to this project has been to 1) improve energy savings by using a lower wattage lamp, 2) reduce maintenance costs and 3) install a lamp that closely matches the existing lighting.

The energy savings benefit of this project will include going from a 100watt mercury vapor lamp to a 25watt LED lamp. Experience has shown that using LED lighting over the traditional mercury vapor lamps is that they do not burn out as fast and they maintain their original intensity longer. This results in less maintenance effort. The proposed 25watt, 3000 Kelvin lamp when installed closely matches a new 100watt mercury vapor lamp. The entire 300 block of south Taylor is a test section that has the 25watt, 3000 Kelvin lamp.

This approach is recommended because of the cost effectiveness of installing this type of LED lighting while realizing the noted benefits (energy, maintenance cost and similarity in lighting). This is not the long term solution to street lighting as this industry is rapidly changing. This proposed approach is more of a five to ten year solution and allows the Village to transform the residential lighting system to LED without significant investment.

Smart Cities is now a hot topic. A smart city is a designation given to a city that incorporates information and communication technologies to enhance the quality and performance of urban services such as energy, transportation and utilities in order to reduce resource consumption, wastage and overall costs. The overarching aim of a smart city is to enhance the quality of living for its citizens through smart technology. Street lighting is one component of a smart city and should be part of the Village's long range street lighting plan.

Cost:

At the February 12, 2018 Board Study Session staff presented four options for lighting replacement (item MOT 18-287). You may also see the presentation video from this meeting on the Village website http://oak-park.granicus.com/MediaPlayer.php?view_id=2&clip_id=885

The options presented are as follows:

- 1) Re-lamp using a new 100 watt mercury vapor.

- a. This option was not considered since they are no longer making the mercury vapor lamps once the national supply is gone.
- 2) Retro-fit to a simple LED lamp.
 - a. This is the option staff recommended. This retro-fit includes removing the existing ballast and lamp and replacing with a LED lamp. The lamp is commonly called a corn cob and has the same lighting pattern as the existing mercury vapor lamps. The agenda items proposed reflect a cost of this option at \$53.59 per light pole (\$12.89 for the lamp and \$40.70 for installation). The lamp price is after ComEd discounts. This is less than a 6 month payback for energy and maintenance. Again the 300 block of south Taylor is a test section that has the 25watt, 3000 Kelvin lamp.
- 3) Retro-fit using an upgraded lighting insert.
 - a. This option includes completely remove the exiting lamp and ballast and replacing it with a LED “plate” light insert. The “plate is inserted at the top of the fixture and has a lighting pattern that has various options for directing the light such as focusing more of the light in the street and away from the sidewalk or house. An example of this light is located at 229 south Humphrey. No bids for this option were received but the estimate from one vendor was \$145.59 per retro fit kit plus an estimated \$52.00 for labor to install which equals \$197.59 per light pole. The stated Return on Investment from the vendor for this option was 1.3 years after ComEd incentives.
- 4) Replace the existing fixture with a new LED fixture.
 - a. This option includes removing the existing “King Arthur” fixtures and replacing it with a similar style LED fixture. This option was estimated at approximately \$1,500 per fixture.

To allow for a side by side comparison of the different types of lighting being discussed attached is a map of the 200 block of south Humphrey where three types of lighting is installed. At 213 south Humphrey is the existing light the Village has throughout the community. It is a new 100watt mercury vapor lamp. At 200, 220 and 302 south Humphrey is the proposed 25watt LED lamp (commonly called a corn cob light). Located at 229 south Humphrey is a 30watt LED “plate” retro-fit.