

LED Streetlight Conversion Project
May 5, 2019

Martha and I have had a discussion with Casey Mastro of the New York Power Authority and Robert O'Brien about the LED streetlight conversion for the hamlet. It had met some resistance when presented to the Board and we felt that there may have been some misunderstandings of the financing. Before this project is abandoned we would like to make an attempt to clarify it a bit.

The advantages are:

1. Reduced cost to the taxpayers
2. Reduced energy consumption
3. Reduced light pollution with more light where it is needed and less where not needed
4. Control over the system
5. An additional energy action for the Clean Energy Communities project with possible grant eligibility

Currently we spend about \$6100 a year for electricity and light rental expecting this to continue subject to inflation forever.

Under the NYPA proposal the 47 lights converted to town-owned LEDs, pole lease to NYSEG, service contract for maintenance, monthly payments for about 9 years to NYPA and reduced electricity charges because of increased efficiency, this drops in year 1 to about \$5700 per year. This results in a small decrease for each taxpayer in the lighting district, no need to borrow money and no need for major budget adjustments.

After the nine year payback period, the \$3900 annual NYPA payment ends and the total annual cost to the taxpayer falls to about \$1800 per year. Unadjusted for inflation, this is about a 70% reduction and the annual payment on our property falls to \$19.00 per year. This is summarized in the following graph.

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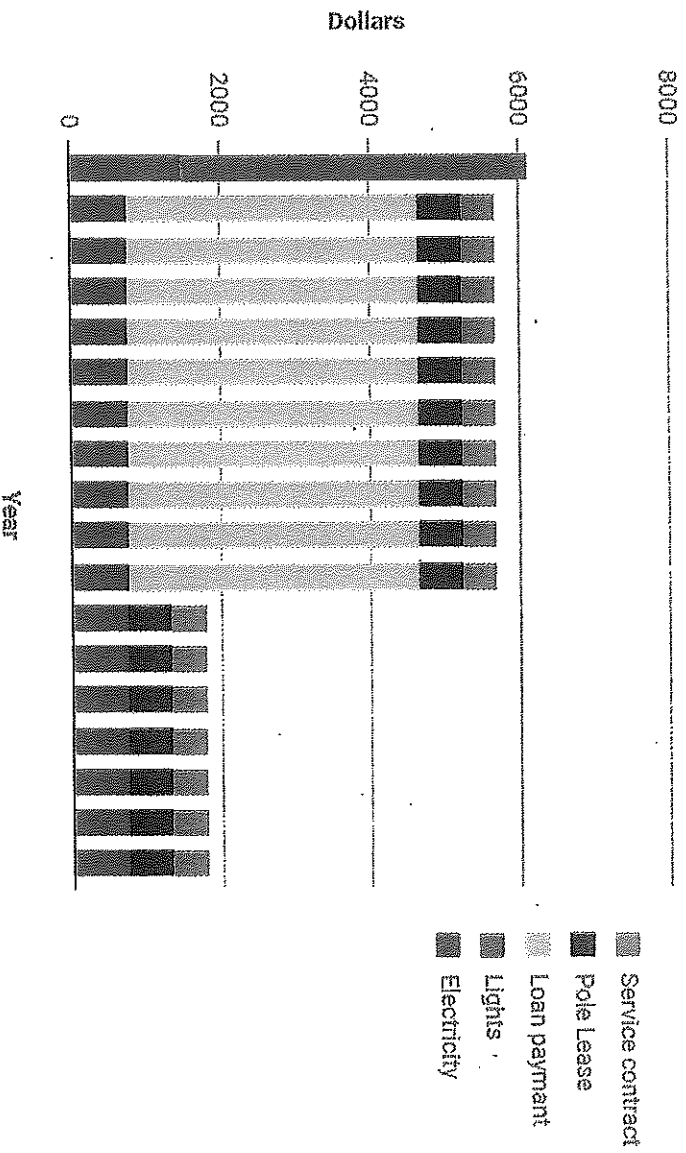
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Annual Projected Lighting Costs (inflation not included)

	Current	Year 1	~Year 10
Electricity	\$1484.16	\$754.36	\$754.36
Lights	\$4631.28	\$0.00	\$0.00
Loan Payment	\$0.00	\$3888.94	\$0.00
Pole Lease	\$0.00	\$563.06	\$470.00
Service contract	\$0.00	\$563.06	\$470.00
Total	\$6115.44	\$5676.36	\$1787.42

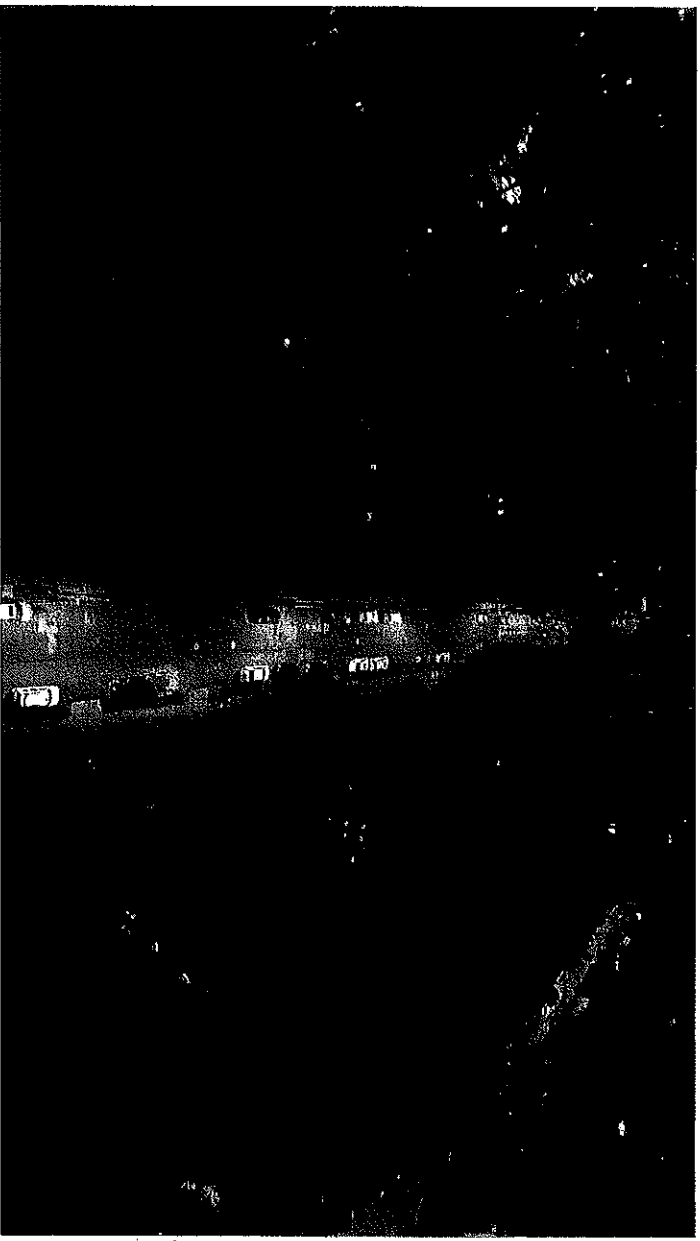
There is always concern about the quality of the lighting. Martha and I made an effort to find local examples of LED street light installations and photograph them but couldn't get a good picture. Casey had his engineer provide us with aerial photos from one of their completed projects. The main concern is that the LEDs provide pools of bright light separated by areas of relative darkness and fail to light sidewalk areas.

The first example below shows a partially completed conversion with the areas of white light being the LEDs, the yellowish areas are existing sodium lights and some unknown bluegreen remaining lights.



The next example is a slighter closer view of a completed section. Look for the distribution of light along the street, the lighting of the sidewalk areas and the relative lack of light trespass into yards and onto house fronts.

We were surprised at how good LEDs can look when an engineered approach is used.



It should be remembered that this proposal is based on today's rates and funding options and pending the engineering review to see if additional light fixtures may be required to achieve the quality we want. As demonstrated by quote increases for pending water projects and firehouse ventilation proposals, time is our enemy. Casey felt that the "drop-dead date" for being included with the Oneonta project and its economics of scale was about 1 year.