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STREET LIGHTING LEVELS

The Transportation and Works Committee recommends the adoption of the recommendation contained in the following report, October 19, 2007, from the General Manager, Roads:

1. RECOMMENDATION

It is recommended this report be received for information.

2. PURPOSE

This report is to provide information on street lighting levels as a result of a deputation from Roger Dickinson at the Transportation and Works Committee of June 13, 2007. The Transportation and Works Committee requested staff review Mr. Dickinson's deputation and report back to Committee.

3. BACKGROUND

At the Transportation and Works Committee meeting of June 13, 2007, Mr. Dickinson made a deputation outlining his concerns with regards to the current lighting levels in the Region. The deputation requested Committee consider lowering lighting levels by turning off the street lights after 11:00 pm with a focus on contributing to fighting climate change and reducing costs by eliminating unnecessary light.

4. ANALYSIS

During the deputation, Mr. Dickinson requested staff review present street lighting level standards and propose changes where lights can be turned off, investigate options for controlling lights using smart switches, use photo cell technology at all existing and new installations. In addition, it was suggested the Region can propose targets and advocate a policy for street lighting reductions for other road authorities and citizens.

4.1 Current Street Lighting

A street lighting policy was adopted by Council on October 11, 1973 under Clause 20 of Report No. 15 of the Engineering Committee and is included in this report as *Attachment 1*. The street lighting intensity within this policy was based upon the following recognized standards for the use of road authorities:

- Ministry of Transportation of Ontario (MTO)
- Transportation Association of Canada (TAC)
- Illuminating Engineering Society of North America (IESNA)

These agencies provide recognized street lighting standards for road authorities. These standards establish minimum street lighting levels, which are recognized as the benchmark. In addition, these standards provide uniformity in design criteria across road jurisdictions within Canada. Providing lower illumination levels than the required minimum could create potential safety and legal risks.

Street lighting along the Regional road network is a multi-jurisdictional responsibility of the Region, local municipality and Hydro utilities. Typically, the Region illuminates intersections on the Regional road network by providing street lighting to the approach of intersections and at the intersection. Exceptions to this are sections of continuous street lighting between intersections on Highway 7 and Yonge Street which were inherited from the Ministry of Transportation. Currently, there are approximately 100,000 street lights along the Regional and local road network. Of these, the Region owns and maintains approximately 5,000 street lights or 5% of the illumination in the Region.

The main purpose for roadway lighting is to create a night time environment conducive to quick, accurate and comfortable visibility for both vehicles and pedestrians. Street lighting, achieves efficient traffic movement, promotes general use of the facilities during darkness and a wide variety of weather conditions, reveals signs and hazards outside of the range of vehicles' headlights. In addition, street lighting provides security, facilitates traffic flow, inspiration for community spirit and growth, promotion of business and industry during the night time, and reduces night time collisions.

4.2 Future Street Lighting

Currently, all the Region's street lights use photocell technology. This technology is used to ensure street lights are turned on at dusk and off in the morning. The Region and local road authorities typically use a range of 200 to 400 watt high pressure sodium (HPS) incandescent lamps for street lights to provide adequate light dispersion. Some jurisdictions are piloting the use of light emitting diode (LED) technology which uses substantially less electricity.

Currently, the City of Wellend has established a pilot project whereby it is implementing 40 LED street lights along with a capital road project. This pilot was established to achieve their strategic goal of becoming an environmentally friendly community by reducing their dependency on electricity. To date, LED street lighting has not been accepted by recognized street lighting authorities as an equivalent technology due to the light dispersion requirements. For instance, to attain the light dispersion of one HPS street light, three LED street lights are required.

In addition, a recent business case analysis concludes the return on investment is significantly longer than the manufacture's warranty. As the LED technology improves and becomes a recognized standard by organizations, staff will continue to evaluate LED's and other technology that will maintain satisfactory illumination levels and reducing costs and the effects on the environment.

In addition, staff will contact the Ministry of Transportation with a request to review the possibility of reducing the current lighting levels set by the provincial agencies. There also needs to be an in-depth review of the lighting standards to accommodate the new LED technology and to reduce the overall lighting levels.

5. FINANCIAL IMPLICATIONS

There are no direct financial implications associated with this report.

6. LOCAL MUNICIPAL IMPACT

Currently, local municipalities are responsible for the majority of the illumination of the roads in York Region (95%). Lowering illumination levels would have an impact on the local municipalities.

7. CONCLUSION

The Region's street lighting policy was adopted by Council on October 11, 1973 using recognized standards from several road and lighting authorities. This policy was created to generate a night time environment conducive to quick, accurate and comfortable seeing for both vehicles and pedestrians. The existing policy will be updated to reflect technology, and other initiatives being implemented such as the great regional streets program and road fixture rationalization between the Region and local municipalities.

For more information on this report, contact Brian Harrison, Director, Operations, Roads Branch at extension 5205 in the Transportation and Works Department.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report.)