EXHIBIT 1

Presented To:	Operations Committee
Presented:	Monday, Mar 17, 2014
Report Date	Thursday, Mar 06, 2014
Type:	Presentations

Request for Decision

Pedestrian Lighting Standards for Road Right-of-ways

Recommendation

THAT the City of Greater Sudbury approve the modified version of the spot street light warrant;

AND THAT the City of Greater Sudbury approve the revised street light standard for municipal right-of-ways in accordance with the report dated March 6, 2014 from the General Manager of Infrastructure Services.

Signed By

Report Prepared By
David Shelsted
Director of Roads & Transportation Services
Digitally Signed Mar 6, 14

Division Review
David Shelsted
Director of Roads & Transportation Services
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Recommended by the Department
Tony Cecutti
General Manager of Infrastructure Services
Digitally Signed Mar 6, 14

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Mar 6, 14

Background

The current streetlight policy is to light roadways and not sidewalks. Street lights installed on the same side of the road as a sidewalk will also provide lighting on the sidewalk and adjacent properties due to light spilling. This is commonly referred to as “light pollution” and has become a concern and nuisance for some residents. The Dark Skies movement is generally associated with the need to preserve and protect the nighttime environment and our heritage of dark skies through environmentally responsible outdoor lighting. To address these concerns, Council approved a Light Pollution Policy in 2012.

In 2012, Greater Sudbury Utilities (GSU) completed an upgrade of the hydro infrastructure along Lorne Street from Webbwood Drive to Martindale Road. As part of the upgrade, the hydro infrastructure, including poles with streetlights, was moved from the north side of the roadway to the south side of the roadway. Moving the street lights to the south side of the roadway has resulted in slightly higher lighting levels on the road, however there is no longer any “light pollution” providing light on the sidewalk or adjacent property owners.

Several concerns were raised by residents as a result of the reduced lighting levels along the sidewalk on Lorne Street. Staff was directed by Council “to seek out best practices from other municipalities, develop a policy for sidewalk lighting standards for Council’s consideration, identify the possibility of joint planning policy between Greater Sudbury Hydro Inc. and the City of Greater Sudbury when the poles are being located, and report back to Council or Operations Committee.”

City staff has completed a review of the right-of-way lighting policies of the City of Burlington, City of

Edmonton, City of Hamilton, and City of Ottawa. Except for the City of Edmonton, each municipality has developed their policy using the American National Standard Practice for Roadway Lighting (RP-8) as the basis and making modifications as per their City's requirements. The road and walkway lighting policy for the City of Edmonton is based on the Transportation Association of Canada (TAC) Guide for the Design of Roadway Lighting. It is important to note that TAC's Guide for the Design of Roadway Lighting recommends identical minimum lighting levels as those in RP-8.

RP-8 has been developed by the Illuminating Engineering Society of North America (IESNA). IESNA has been the technical authority on illumination for over 100 years. Its objective has been to communicate information on all aspects of good lighting practices to its members, the lighting community and consumers. Through technical committees, the IESNA correlates research, investigations and discussions to guide the lighting community through consensus-based lighting recommendations. The IESNA Committee on Roadway Lighting has been producing guidelines for roadway lighting since 1928. The current guideline, RP-8, has evolved from earlier documents and considers the latest research, international standards, experience and equipment technology.

RP-8 was originally published in 2000 and was reaffirmed in 2005. The primary purpose of the guideline is to serve as the basis for design of fixed lighting for roadways, adjacent bikeways, and pedestrian ways. As stated within RP-8, the purpose of the guideline is to provide recommended practices for designing new continuous lighting systems for roadways and it is not intended to be applied to existing lighting systems until such systems are redesigned.

It is recommended that the City of Greater Sudbury utilize the most current version of the RP-8 standard, for right-of-way lighting only, with the following modifications:

1. The standard will only be applied to new roadways and capital projects which involve the widening of the roadway. Existing roadway lighting will remain at current lighting levels as recommended by RP-8.

2. Right-of-way lighting will only be provided in areas designated as 'communities' and 'non-urban settlements' in the Official Plan (refer to Exhibit A). For 'rural and waterfront areas,' right-of-way lighting will only be provided at intersections of public roadways, areas with geometric deficiencies (for example, substandard horizontal curves with posted advisory speed) or collision prone locations.

3. The roadway lighting levels will take precedence over sidewalk lighting levels for sidewalks located more than 2.5 m away from the light pole. Therefore, roadways will not be over lit in order that the lighting of sidewalks in distant locations or on the side of the road opposite a single sided lighting installation achieves the average lighting level as outlined in RP-8.

4. The vertical illuminance component of the sidewalk lighting criteria identified in RP-8 may not be practical to implement in some circumstances and therefore is not utilized by this policy.

5. When the installation of a new sidewalk is restrained to a specific side of the roadway by the terrain (for example, rock outcrops or sharp drop-offs beyond the edge of pavement) or other obstruction, and it is not economically feasible to provide additional lighting for the sidewalk, the roadway will not be over lit in order that the lighting of the sidewalk achieves the average lighting level as outlined in RP-8.

It is recommended by staff, that walkways which run between the homes of residents and connect two right-of-ways continue to not be lit. In most cases, poles are not located within these walkways and where poles exist, it is extremely difficult to provide light to the walkway without lighting the backyards of the abutting lands.

It is also recommended that this policy be the minimum lighting requirement for any private road that is to be assumed by the City.

The City also arranges for the installation of street lights through its spot treatment program. Each year a small portion of the Roads capital budget is allocated to this program ($45,000 in 2014). Through this program, locations requested by residents are put through an initial screening process and then ranked according to a series of factors. Once the final ranking is completed, estimates for the installation of street lights are obtained from GSU. Based on the provided estimates and the annual budget, the highest ranking locations are approved for installation until allocated funds for the year are exhausted. Locations which warrant the installation of a street light but are not installed due to funding limits are carried over to subsequent years and ranked against new requests. In a typical year, the City will receive 50 requests for new installations and will arrange for 10 to 15 street lights to be installed.

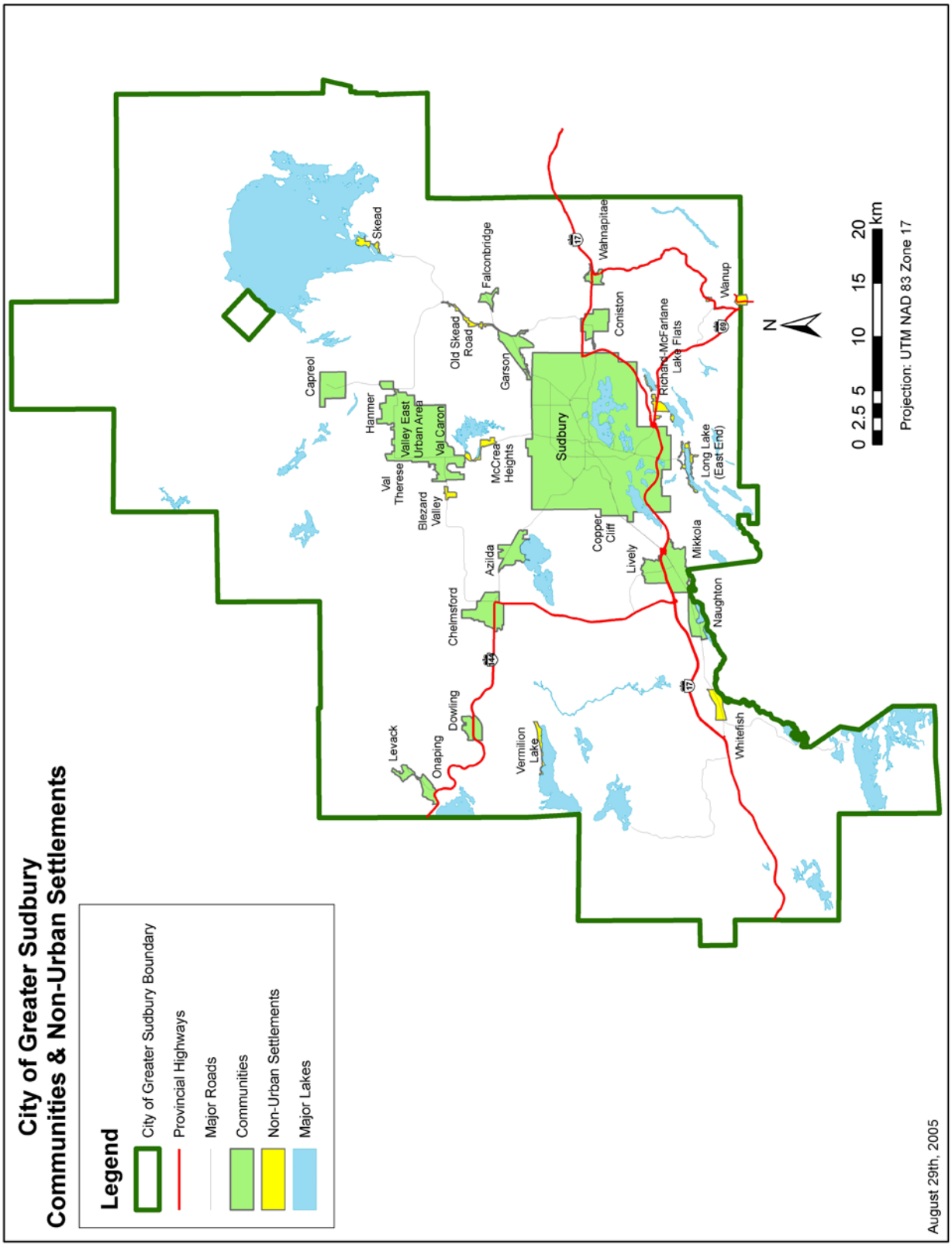
The City's Spot Street Light Warrant is a modified version of the warrant for lighting arterial, collector and local roads which is found in TAC's Guide for the Design of Roadway Lighting. It is recommended that the modified RP-8 standard apply to the spot treatment program as well. For example, street lights will only be installed within communities or non-urban settlements as designated by the Official Plan unless the area of concern has a geometric deficiency. See Exhibit B for a copy of the City of Greater Sudbury Spot Street Light Warrant which has been updated to include a screening question related to the modified RP-8 standard. In addition, City staff will work with Greater Sudbury Police Services to provide improved street lighting in identified areas. These projects will also be funded from the Spot Street Light program.

City staff along with GSU staff has investigated possible ways to improve lighting levels on the sidewalk on the north side of Lorne Street. The existing lighting does not meet the above standard for sidewalk lighting. As part of the pole relocation project, a series of poles will remain on the north side of Lorne Street that may be used for the installation of additional lighting for the sidewalk. However, the remaining poles are spaced inconsistently and will result in dark areas and some poles may need to be replaced due to their condition or their proximity to the road. Additional poles would need to be installed to provide uniform lighting. Consistent with this policy, it is proposed to upgrade the lighting of this section of Lorne Street as part of the next capital project. This section of Lorne Street is currently identified in 2016 in the Roads capital budget outlook.

For all future utility pole relocation projects, GSU and City staff will review this lighting policy prior to the relocation of street lights.

EXHIBIT 1

EXHIBIT: A



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City of Greater Sudbury Spot Street Light Warrant

Location: _____
Number of Lights Requested: _____
Analyst: _____
Field Review Date: _____
Photo Taken? Yes No
Warrant Completion Date: _____

Initial Screening

1. Is there existing lighting at the requested location?	Yes	No
2. Is there existing full lighting on the roadway?	Yes	No
3. Will a new pole be required for the requested location?	Yes	No
4. Is the requested location outside of a 'community' or 'non-urban settlement' as defined by the Official Plan? (If a geometric deficiency will be addressed, select No)	Yes	No

If "Yes" to ANY of the above questions, the location does not qualify for a spot street light.
If "No" to ALL of the above questions, proceed to the Ranking section below.

Ranking

	Ranking Factor	Rating Factor					Weight	Rating	Score
		1	2	3	4	5			
1	Classification	Lane	Local	Collector/ Tertiary Arterial	Secondary Arterial	Primary Arterial	1.0		
2	Driveways and Entrances/km	<20	20 to 40	40 to 60	60 to 80	> 80	1.4		
3	Horizontal Curve Speed Reduction (km/h)		<10	10 to 20	20 to 30	>30	5.5		
4	Vertical Grade (%)	<3	3 to 4	4 to 5	5 to 7	>7	0.4		
5	Sight Distance (m)	>210	150 to 210	90 to 150	60 to 90	<60	0.2		
6	Parking	Prohibited	Loading	Off Peak	One Side	Both Sides	0.1		
7	Operating or Posted Speed (km/h)	<=40	50	60	70	>=80	0.6		
8	Pedestrian Nighttime Activity Level (#/peak hour)			Low (<10)	Medium (11 to 99)	High (>=100)	3.2		
9	Percentage of Development Adjacent to Road (%)	nil	nil to 30	30 to 60	60 to 90	>90	0.2		
10	Area Classification	Rural	Industrial	Residential	Commercial	Downtown	0.2		
11	Distance from Development to Roadway (m)	>60	45 to 60	30 to 45	15 to 30	<15	0.2		
12	Ambient (off Roadway) Lighting	Nil	Sparse	Moderate	Distracting	Intense	1.4		
13	Safety (# of nighttime collisions from previous 3 years or GSPS priority rating)	0	1	2	3	>3	5.6		
							Total		

Field Notes

_____
_____
_____
_____
_____

Review Criteria

Full Lighting is when the entire roadway width within a defined area has lighting in a uniform manner.

The Horizontal Curve Reduction speed is determined by measuring the comfortable speed of the horizontal curve using a ball bank meter.

Pedestrian Nighttime Activity is estimated using the adjacent land uses.

Ambient Lighting Definitions

- Sparse - typically includes rural roadways with little or no development
- Moderate - typicaly includes rural or urban roads with some building lighting and development outside of commercial areas. Areas with residential and industrial development will typically have moderate ambient lighting.
- Distracting - typically is downtown commercial areas with well lighted building exteriors adjacent to the roadway. It can also include commercial development where lighting is used to attract attention to businesses.
- Intense - typically is areas with large advertising signs, sports lighting and other intense light sources adjacent to the roadway.