

STREET LIGHTING POLICY

1.0 BACKGROUND

The City of Lewiston's street lighting standards as promulgated in this policy account for factors such as traffic volume, nighttime pedestrian activity, pedestrian security, crime prevention, light pollution, and energy conservation. Street lighting is particularly useful in areas of potential vehicle and pedestrian conflict, such as intersections and other pedestrian crossing locations and as a means of aiding pedestrian access to public roadway at night.

By providing an adequate level of illumination appropriate to the level-of-use desired throughout the City of Lewiston, vehicle and pedestrian nighttime use can be enhanced and potential conflict with the two can be minimized. Additionally, the proper selection of lighting equipment and the location of street lighting will provide sufficient visibility, increased safety, and improved security for pedestrians and vehicles while maximizing energy efficiency and minimizing expenditure.

The use of streetscape lighting has demonstrated an improved visual appeal for the City of Lewiston's urban environment along many of its downtown streets. Properly installed streetscape lighting creates an environment that is aesthetically pleasing and inviting to nighttime use by pedestrians. Although streetscape lighting is not feasible in all locations of the City, the use of streetscape lighting has demonstrated an improved visual appeal for the City of Lewiston's urban environment along many of its downtown streets including Lisbon Street, Canal Street, and Lincoln Street.

Lighting levels for roadway street lighting aimed at promoting efficient traffic movement is generally based on Illuminating Engineering Society of North America (IES) recommendations contained in IES publication RP-8-00 Roadway Lighting. IES guidelines are based on geometric, operational, and environmental factors and suggest average roadway luminance and uniformity ratios to reduce traffic accidents. Although the IES standards are desirable to attain for roadways with high traffic volumes, the IES standard do not easily translate to rural and residential roadway lighting applications where promoting traffic flow and traffic speed are not the primary concern. The standards recommended by the IES would be best applied to Lewiston on roadways where traffic flow, speed, and the potential pedestrian conflicts are of primary concern such as sections of Main Street, Sabattus Street, and Lisbon Street.

The policies used to develop the Streetlight Standard recommend a residential streetlight spacing of 220 feet in urban areas and minimal lighting in less urbanized areas. These policies also recommend semi-cutoff fixtures to reduce glare and light pollution. The standards and ordinances referenced include:

- "American National Standard Practice for Roadway Lighting," Illuminating Engineering Society of North America.
- "Promoting Quality Outdoor Lighting in Your Community," Maine State Planning Office, Lighting Technical Assistance Bulletin.
- "Roadway Lighting: Design Guide," American Association of State Highway and Transportation Officials. October 2005.
- "Salt Lake City Street Lighting Master Plan and Policy," Salt Lake City Community Development Department.
- "Town of Aberdeen Street Lighting Policy and Guidelines," Town of Aberdeen, North Carolina.

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- “Design Standards for Outdoor Lighting,” City of Lincoln and Lancaster County, Nebraska. Building and Safety Department Design Standards, Chapter 3.100.
- “Street Lighting Standards,” City of Bremerton, Washington, Department of Public Works and Utilities: Engineering Division, Design Standards: Division 7.
- “Street Lighting Policy,” City of San Angelo, Texas. Public Works Department.
- “Town of Chapel Hill Design Manual,” Town of Chapel Hill, North Carolina, Engineering Department.

2.0 PURPOSE

The purpose of this Policy is to establish the standards for the placement, operation, and maintenance of street lighting within the public right-of-way. This Policy intends to promote the public health, safety, and welfare of the City by providing lighting that appropriately and adequately illuminates developed and future public right-of-ways by:

- 2.1. Providing street lighting levels that protect the safety, security, and nighttime-use and enjoyment in public right-of-ways by the public;
- 2.2. Providing adequate street lighting level that will promote pedestrian nighttime use in areas with high crime rates;
- 2.3. Reducing light pollution and glare caused by street lighting;
- 2.4. Promoting energy conservation; and
- 2.5. Enhancing the aesthetics of the built environment.

3.0 AUTHORITY

Pursuant to the City of Lewiston’s Code of Ordinances, Chapter 2, Article V, Section 2-401 and Section 2-402 (3), the Director of Public Services shall be responsible for all matters relating to all electrical utilities of the City and the division of electricity directed by the Director of Public Services shall coordinate and control the activities related to the operations and maintenance of all street lights.

4.0 DEFINITIONS

- 4.1. Arterial Roadway – A public roadway shown on the most recent functional classification map generated by the Maine Department of Transportation, further classified as a major or minor arterial, providing longer through travel between major trip generators (large cities, recreational areas, etc.)
- 4.2. Alley – A public roadway providing access to the service entrances of buildings primarily used by service vehicles, where through traffic is usually discouraged, and carrying a low volume of traffic.

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- 4.3. Collector Roadway – A public roadway shown on the most recent functional classification map generated by the Maine Department of Transportation as a collector street which collects traffic from local roads and also connects smaller cities and town with each other and to the arterials.
- 4.4. Local Roadway – A public roadway shown on the most recent functional classification map generated by the Maine Department of Transportation as a local street providing direct access within identifiable neighborhoods and lands, where through traffic is usually discouraged, and carrying a low volume of traffic.
- 4.5. Light pole – A pole owned by the City, located in the public right-of-way used to mount ornamental lighting or an overhead streetlight.
- 4.6. Luminaire – A complete lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, position, and protect the lamp and connect the lamp to the power supply.
- 4.7. Streetscape Lighting – Lighting mounted on stand-alone light poles, within the public right-of-way, typically no more than ten to 15 feet in height, used to illuminate sidewalks, building facades, and in some instances the roadway.
- 4.8. Public Right-of-Way – A strip of land acquired by deed, reservation, dedication, forced dedication, prescription, or condemnation and intended to be occupied or occupied by a roadway, crosswalk, railroad, electric transmission line, oil or gas pipeline, water line, sanitary or storm sewer other similar use.
- 4.9. Roadway – For the purposes of this policy, any portion of a public right-of-way that is paved or graveled and used for vehicle and pedestrian travel.
- 4.10. Semi-cutoff – A luminaire where less than 5 percent of the lamp lumens occur at or above the horizontal plane and no more than 20 percent of the lamp lumens occur above 80 degrees above the vertical plane (nadir).
- 4.11. Streetlight – Any light operated and maintained by the City that is used for the purpose of lighting a roadway within a public right-of-way mounted on a utility pole or light pole that directs light to the roadway.
- 4.12. Spacing – The distance between successive luminaires measured along the centerline of the roadway.
- 4.13. Street Segment – a section of roadway typically broken by a roadway intersection or sharp corner.
- 4.13. Utility pole – A pole owned and maintained by a utility company used to support power lines, telephone lines, cable lines, etc.

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5.0 APPLICABILITY

The street lighting standard applies to all streetlights located within public right-of-ways. Street lighting improvements shall be made:

- 5.1. During routine maintenance and capital improvements by the City or its contractors.
- 5.2. When new public streets are constructed, improved, or closed.
- 5.3. When new development is proposed that impacts the downtown streetscape.

6.0 GENERAL

- 6.1. The installation and maintenance of street lights within the limits of the City of Lewiston shall conform to the standards set forth in this Policy.
- 6.2. The Department of Public Service or future department responsible for the maintenance and operation of City streetlights (the Department) shall be responsible for the installation, replacement, removal, and maintenance of all City street lights in conformance with the standards set forth in this Policy.

7.0 SPACING STANDARDS

Streetlight placement within public right-of-ways shall conform to the following standards as feasible given utility pole spacing and light pole spacing:

- 7.1. Service Area One – For any roadway within the service area indicated on the Street Light Service Map in Appendix A:
 - 7.1.1. One streetlight shall be located at all roadway intersections and mid-block locations at a spacing interval of approximately 150-220 feet as feasible given existing utility pole and light pole spacing.
 - 7.1.2. Street segments less than 300 feet in length shall be lit at roadway intersections, dead ends, and at least once at midblock locations.
 - 7.1.3. Streetscape lighting within the Streetlight Lighting District described in Section 12.0 may be used to light roadways where sidewalks are present and highlight building facades and public areas as determined by the City Council.
- 7.2. Service Area Two – For any roadway within the service area indicated on the Street Light Service Map in Appendix A:
 - 7.2.1. For **principal and minor arterials** as defined on the most recent functional classification map generated by the Maine Department of Transportation, street lighting will be provided at a spacing interval of approximately 220 feet and at intersections and at mid-block locations as feasible given existing utility pole and light poles spacing or as required by the lighting technology that is used.

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7.2.2. For all **other roadways** within this zone, street lighting will be provided at intersections, cul-de-sacs, dead ends, and at mid-block locations as listed below:

- 7.2.2.1. Street segments less than 1,000 feet in length shall be located at all roadway intersections and mid-block locations at a spacing interval of approximately 220 feet as feasible given existing utility pole and light pole spacing.
- 7.2.2.2. Street segments less than 300 feet in length shall only be lit at roadway intersections and dead ends.
- 7.2.2.3. Street segments greater than 1,000 feet in length shall be lit at a spacing interval of approximately 440 feet as feasible given existing utility pole and light pole spacing.
- 7.2.2.4. Street segments greater than 2,000 feet in length shall be lit at a spacing interval of approximately 660 feet as feasible given existing utility pole and light pole spacing.

7.3. Service Area Three – For any roadway within this service area as indicated on the Street Light Service Map in Appendix A:

7.3.1. For **principal and minor arterials** as defined on the most recent functional classification map generated by the Maine Department of Transportation, street lighting will be provided at a spacing interval of approximately 440 feet and at intersections and at mid-block locations as feasible given existing utility pole and light poles spacing.

7.3.2. For all **other roadways** within this zone, street lighting will only be provided at public roadway intersections, cul-de-sac, and dead ends.

7.3.3. Predominantly residential areas (one dwelling unit per 2.5 acres or less) located in this service area illuminated with City streetlights as of the effective date of this standard shall continue to be illuminated at the pre-existing spacing interval or existing spot location. Removal of additional streetlights shall be at the discretion of the City Council through a process that is determined by the Council.

7.4. Situational Applications – Additional street lighting shall be provided in any service area up to the Roadway Standard suggested by the IES in RP-8-00 Roadway Lighting at the discretion of the Department in the following situations:

7.4.1. At the bottom of steep hills, corners with an angle less than 120 degrees, highway entrances and exits, at-grade railroad crossings, bridges, schools, mid-block and T-intersection crosswalk locations, and transit stops as determined by the Department. Streetscape lighting shall be the preferred method of illumination at transit stops as feasible.

7.4.2. At locations and areas of high vehicle-to-vehicle and vehicle-to-pedestrian accidents. Such lighting shall be identified and installed by the Department in partnership with the Police Department.

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- 7.4.3. At targeted locations where high crime is a documented problem as determined by the Police Department. Streetscape lighting shall be the preferred method of illumination as feasible.

8.0 LIGHTING STANDARDS

Streetlight installation within public right-of-ways shall conform to the following standards as feasible given the existing spacing of utility poles and light poles:

- 8.1. City streetlights shall be mounted on existing or future utility poles or light poles.
- 8.2. Street lights shall be installed at a height based on guidelines provided by the IES Roadway Standard as necessary based on the roadway type: highway to alley.
- 8.3. To reduce glare and sky illumination, streetlights purchased and/or installed by the City or its contractor shall be of the semi-cutoff type. Existing streetlights and equipment in stock as of the effective date of this policy shall not be required to conform to this requirement.
- 8.4. The City shall seek to minimize energy usage by streetlights by choosing optimal lighting configurations (i.e. maximizing efficiency for intersections lighting) and using the most cost-effective and innovative technology available including induction lighting, Light Emitting Diode (LED) lighting, networked lighting systems, timed and light sensing lighting, or other future technologies as financially prudent.
 - 8.4.1. In Service Zone 1: For all roadway, streetscape lighting, LED, and induction lights shall be the preferred method of illumination.
 - 8.4.2. In Service Zone 2: For major arterials, LED, induction or HPS shall be the preferred method of illumination; for all other roadway, 70 watt HPS shall be the preferred method of illumination.
 - 8.4.3. In Service Zone 3: For all roadways, 70 watt HPS shall be the preferred method of illumination for midblock locations. LED may be used for intersection locations.
- 8.5. Streetlights installed at any intersections or crosswalk shall not exceed the electricity usage of a 250 watt High-Pressure Sodium (HPS) fixture equivalent.
- 8.6. Streetlights installed at midblock locations shall not exceed the electricity usage of a 150 watt HPS fixture equivalent. Fixture wattage may be reduced to an equivalent electrical usage of less than a 70 watt HPS fixture equivalent by the Department on notification to the City Council.
- 8.7. The City shall seek to match uniformity, lumen output, and color of other streetlights along roadway segments and long major arterials.

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9.0 INSTALLATION STANDARDS

9.1. The City shall install street lights in conformance with this standard.

9.2. All installation of City streetlights shall be carried out by a licensed electrician employed or contracted by the City. New street lighting proposed for new subdivisions and roadways shall be installed and designed in conformance with this policy by private contractors to the specifications determined by the City and in accordance to the standards found in this policy.

9.3. Street lighting installed or removed in error may be requested by City residents and property owners for installation or removal in conformance with this policy.

10.0 MAINTENANCE STANDARDS

10.1. All maintenance of City streetlights shall be carried out by a licensed electrician employed or contracted by the City.

10.2. The City shall maintain an official map of the location of the City's streetlights and a corresponding list of the fixtures and wattage of those streetlights. This official map shall be updated and published on an annual basis.

10.3. The City shall develop a streetlight service plan including a schedule for the periodic maintenance and replacement of fixtures, a schedule for bulk re-lamping by area, and a schedule for bulk replacement of photo-sensors. The City shall update and maintain that plan on an annual basis.

10.4. The City shall log citizen reports of streetlight outages, register those outages on the official streetlight map, taking note of critical locations where traffic and pedestrian safety is at risk, evaluate if those streetlights need to be replaced ahead of normally scheduled replacement, and then replace the "burnt-out" streetlight if justified according to the evaluation process.

11.0 ADDITIONAL STREET LIGHTING

11.1. Residents, property owners, the City Council, or the Department may seek to modify the service boundaries set forth in this Policy for the purpose of installing or removing streetlights as the City changes. It shall be the responsibility of the City Council to hear and make modifications to the service boundaries as necessary.

11.2. Property owners may request the installation or removal of street lighting from the Department.

11.3. The Department shall evaluate the request and act upon that request for the installation or removal of street according to the standards found in this Policy. The Department shall use the following criteria in evaluating requests from property owners for the installation or removal of street lighting:

11.3.1. Conformance with the provisions of the Streetlight Standard.

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11.3.2. Conformance with uniformity, lumen output, and color of other streetlights along the roadway in question.

11.3.3. Limited adverse impacts to the public including vehicle and pedestrian traffic and associated impacts from glare and disruption of streetlight uniformity.

11.4. Any property owner denied a request to install or remove a streetlight by the Department may request an administrative hearing before the board of appeals by filing a written petition for such hearing at the office of the Director of Code Enforcement within ten days of the date of notice of the denial by the Department. Such appeal shall be heard within 30 days after the date of filing. The board of appeals may sustain, modify or withdraw such request. The decision of the board of appeals may be further appealed pursuant to the provisions of rule 80B of the Maine Rules of Civil Procedure. To take advantage of this right, a petition for review must be filed with the superior court within 30 days of receipt of the decision of the board of appeals.

12.0 STREETScape LIGHTING

12.1. Streetscape lighting shall be installed by the City to illuminate pedestrian walkways, public building facades, and roadways at the discretion of the City Council in areas designated by the City Council as the "Streetscape Lighting District" as indicated on the Street Light Service Map in Appendix A.

12.2. From time to time, the City under the direction of the City Council may seek to modify the boundaries of the Streetscape Lighting District.

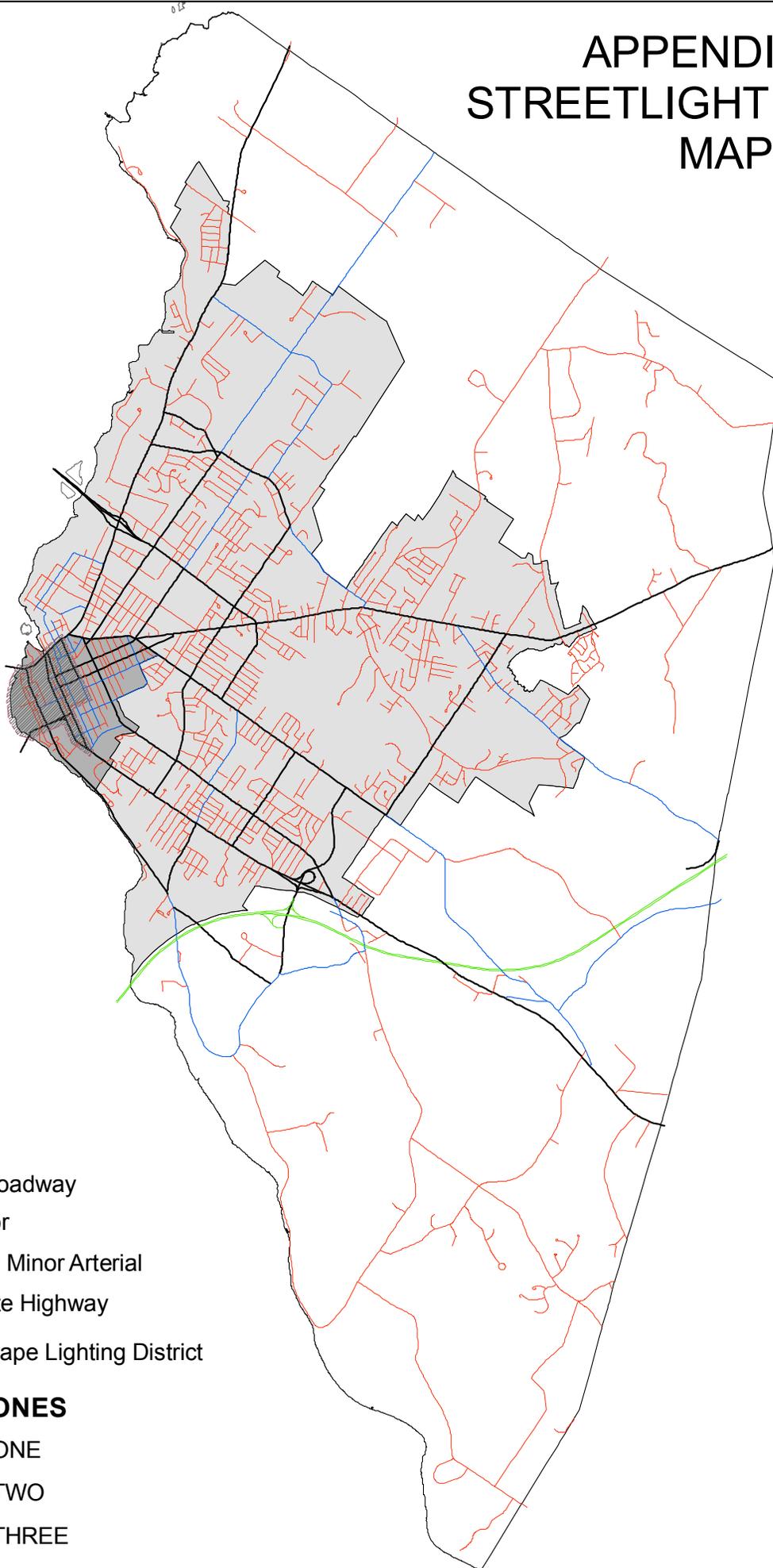
12.3. Within the Streetscape Lighting District, streetscape lighting shall be the preferred method of illumination. Within this district, the City shall seek to expand the use of streetscape lighting in place of overhead lighting as fiscally prudent and in conjunction with other infrastructure projects.

13.0 EFFECTIVE DATE

October 20, 2009



APPENDIX A: STREETLIGHT SERVICE MAP



LEGEND

-  Local Roadway
-  Collector
-  Major or Minor Arterial
-  Interstate Highway
-  Streetscape Lighting District

SERVICE ZONES

-  ZONE ONE
-  ZONE TWO
-  ZONE THREE