

Department of Legislative Services
Maryland General Assembly
2015 Session

FISCAL AND POLICY NOTE

House Bill 336 (Delegate Carr, *et al.*)
Health and Government Operations

Procurement - State Funds - Energy Efficient Outdoor Lighting Fixtures

This bill prohibits the use of State funds to install or replace a permanent outdoor luminaire on the grounds of nonState buildings unless the fixture meets specified criteria regarding energy efficiency and light emission, subject to specified exemptions and waivers. It also changes the energy efficiency and light emission standards for permanent outdoor lighting on buildings owned or leased by the State and applies those criteria to the replacement of roadway and parking lot lighting as well. The Board of Public Works (BPW) must adopt regulations for a waiver program.

Fiscal Summary

State Effect: Transportation Trust Fund and nonbudgeted expenditures increase minimally to replace some existing roadway lights with fully shielded luminaires; any increase in cost may be partially or fully offset by reduced operating expenses from the use of more efficient lighting. BPW can develop regulations and manage a waiver program with existing resources. No effect on revenues.

Local Effect: Local capital projects that receive State funds and are not exempt under the bill are barred from using those funds for outdoor lighting that does not meet the criteria specified in the bill. There is no restriction on the use of local funds, however. **This bill may impose a mandate on a unit of local government.**

Small Business Effect: Potential minimal.

Analysis

Bill Summary: The bill does not apply to any public work contract (1) valued at less than \$500,000 or (2) for which 50% or less of the funds used for the project are State funds. It also does not apply to lighting for:

- projects that receive funding from the State's capital budget as a grant to a nonprofit organization or a local government;
- athletic fields;
- emergency procedures or nighttime work;
- navigational systems for aviation and nautical safety; or
- tunnels and roadway underpasses.

The bill repeals existing criteria for permanent outdoor luminaires that are installed or replaced with State funds and instead specifies that each luminaire that is installed or replaced must provide surface lighting levels that do not exceed minimum lighting levels:

- adopted by the Illuminating Engineering Society (IES);
- established by the Model Outdoor Lighting Ordinance adopted jointly by IES and the Dark Sky Association; or
- otherwise recognized as national standards in the field of lighting.

In addition, any luminaire for roadway or parking lot lighting must be a fully shielded luminaire, as defined in the bill. A luminaire for façade lighting must be shielded to reduce glare, sky glow, and light trespass, as defined in the bill.

The bill makes additional clarifying changes to existing law.

Current Law: Chapter 353 of 2011 requires that luminaires installed or replaced with State funds on the grounds of buildings owned or leased by the State must:

- maximize energy conservation and minimize light pollution, glare, and light trespass;
- provide the minimum illumination necessary for the intended purpose of the lighting; and
- be a restricted uplight luminaire if it has an output of more than 1,800 lumens.

The latter two requirements are repealed by the bill and replaced with alternative requirements specified above.

A “luminaire” is the complete lighting unit including the lamp, other components that produce light, and the assembly that holds the lamp.

A “restricted uplight luminaire” is a lighting fixture that (1) allows no direct light emission above a horizontal plane through the fixture’s lowest light-emitting part, except for a 0.5% maximum incidental uplight from reflection off mounting hardware and (2) emits no more than 10% of the total direct light emission at or above a vertical angle of 80 degrees.

Chapter 353 does not apply to luminaires that are:

- located on the grounds of a correctional facility;
- required by federal regulation;
- required for storm operation activities performed by the Maryland Department of Transportation (MDOT);
- required to illuminate the Maryland or U.S. flag;
- used for sign illumination; or
- in a lighting plan where fewer than 25% of the luminaires are to be replaced.

BPW or its designee may waive the requirement that high-output luminaires be restricted uplight luminaires if the waiver is necessary for the lighting application. BPW must establish requirements for the waiver. In awarding a waiver, BPW or its designee must consider design safety, costs, and any other factors it deems appropriate.

State Fiscal Effect: Chapter 353 applies only to lighting on the grounds of State buildings; this bill extends its application to State payment for roadway and parking lot lighting as well, requiring only the use of fully shielded luminaires to reduce sky glow and light trespass. However, the bill’s requirements only apply to the installation of new lighting or the replacement of existing lighting, and then only to lighting plans in which at least 25% of existing lights are to be replaced. As noted above, it also exempts tunnel and underpass lighting as well as navigational lighting for aviation and nautical safety.

Based on these restrictions, neither the State Highway Administration nor the Maryland Transit Administration anticipates any significant fiscal effect from the new requirements. Both agencies advise that their current standard design practices comply with the bill’s requirements, so any project that involves the replacement of a significant number of roadway lights does not incur any additional costs. The Maryland Port Administration and the Maryland Aviation Administration anticipate only minimal increases in costs associated with replacing roadway lighting in their facilities. The Maryland Transportation Authority (MDTA) anticipates that the bill’s requirements to use fully shielded luminaires may increase the cost of replacement lighting by between 10% and 20%. MDTA has roughly 40 groups of highway lights for which it is

responsible. It further notes that use of more efficient lights may reduce operating costs and thereby offset some or all of the additional cost of the more expensive luminaires. However, a precise estimate of the overall fiscal effect is not possible in the absence of a clear timeline for the replacement of existing lights. Most roadway lights require replacement only about every 30 years.

Additional Comments: MDOT notes that the requirement that surface lighting not exceed minimum standards may not be feasible. Lighting engineers typically allow for degradation of lighting and accumulation of dirt on lighting fixtures in designing lighting systems. Therefore, newly installed luminaires are typically brighter than minimum standards so that they do not drop below the minimum over the course of their use.

Additional Information

Prior Introductions: None.

Cross File: None.

Information Source(s): Department of Budget and Management, Department of Natural Resources, Department of General Services, Maryland Energy Administration, Maryland Department of Transportation, University System of Maryland, Department of Legislative Services

Fiscal Note History: First Reader - February 16, 2015
mel/ljm

Analysis by: Michael C. Rubenstein

Direct Inquiries to:
(410) 946-5510
(301) 970-5510