

Department of Legislative Services
Maryland General Assembly
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FISCAL AND POLICY NOTE
Third Reader - Revised

Senate Bill 314

(Senators Lam and Guzzone)

Education, Health, and Environmental Affairs Health and Government Operations and
Appropriations

**Department of General Services - Energy-Conserving and Bird-Safe Building
Standards (Maryland Sustainable Buildings Act of 2019)**

This bill requires the Department of General Services (DGS) to establish standards for State buildings to minimize adverse impacts on birds. Each building constructed, substantially altered, or acquired by DGS must meet the new standards to the extent practicable. DGS must also reduce the lighting of existing public buildings, as specified by the bill. The Secretary of General Services must adopt regulations to carry out the bill.

Fiscal Summary

State Effect: The bill's effect on construction and maintenance costs (all funds) cannot be reliably estimated, as discussed below; however, State utility costs may decrease over time. Revenues are not affected.

Local Effect: None.

Small Business Effect: None.

Analysis

Bill Summary: The bill includes multiple specifications regarding the amount and/or types of glass that may be used in State buildings and related facilities. Any transparent passageway or corner in a building must use any of the specified types of glass or the specified elements (such as netting, shutters, or exterior shades) that minimize the risk of bird collisions.

Except where full operation of building lighting is documented as necessary, interior and exterior lighting must be appropriately shielded and minimized from midnight to dawn during specified times of the year. Existing public buildings must accomplish this, to the extent practicable, by using automatic control technologies, including timers, photo-sensors, infrared detectors, and motion detectors.

Current Law: There are no provisions in State law to minimize the adverse impacts of State buildings on birds.

However, Chapter 124 of 2008 requires most new or renovated State buildings to be constructed as high-performance buildings, subject to waiver processes established by the Department of Budget and Management (DBM) and DGS.

Chapter 124 defines a high-performance building as one that:

- meets or exceeds the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) criteria for a silver rating; or
- achieves a comparable numeric rating according to a nationally recognized, accepted, and appropriate standard approved by DBM and DGS. Based on a unanimous recommendation from the Maryland Green Building Council, in 2017, DGS and DBM approved the use of the Green Globes rating system developed by the Green Building Initiative as an alternative to LEED Silver.

Only new or renovated State buildings that are at least 7,500 square feet and are built or renovated entirely with State funds are subject to the high-performance requirement. Additionally, building renovations must include the replacement of heating, ventilation, air conditioning, electrical, and plumbing systems and must retain the building shell. Unoccupied buildings are exempt from the high-performance mandate, including warehouses, garages, maintenance facilities, transmitter buildings, and pumping stations.

Background: DGS manages about two-thirds of State-owned buildings, with the University System of Maryland, Maryland Department of Transportation, and other independent entities responsible for the remaining buildings.

A 2014 published study, conducted by scientists from the Smithsonian Institution and the Fish and Wildlife Service, estimated that between 365 million and 988 million birds are killed in the United States every year as a result of building collisions. It concluded that building collisions, driven by the increased use of glass building facades, are second only to feral and domesticated cats as the greatest threat to birds.

In a published report, the Urban Green Council (UGC), a chapter of the U.S. Green Building Council that administers the LEED program, indicates that the increased use of glass facades, driven by market conditions, has diminished the energy efficiency of office and residential buildings. According to UGC, “Today, almost all large, complex buildings make the same trade off: they add more glass (leading to an energy penalty), and make up for it with superior mechanical systems.” Partly in response to these trends, LEED now awards up to one point on its grading scale for the adoption of bird collision deterrence designs that limit the use of glass or adopt mitigating features, such as the standards required by the bill.

However, DGS advises that the bill’s standards *may* conflict with the State’s high-performance building program because limiting the amount of glass in building facades restricts natural light and *may*, in some instances, diminish energy efficiency, both of which are favored by LEED standards.

State Fiscal Effect:

Glass in State Buildings

DGS advises that it constructs, substantially alters, or acquires between one and three buildings each year. Given the specificity of the standards in the bill, DGS can likely implement the bill’s standard-setting requirements with respect to window glass with existing resources.

The effect of those standards on building construction and maintenance costs is less clear. Replacing glass with other materials (concrete, etc.) likely has little to no effect on construction costs (except for reducing the market value of the building) and may reduce life-cycle costs (depending on building design and other environmental factors). However, replacing transparent glass with frosted or etched glass (to reduce bird collisions) can add substantially to the construction cost of a building. Similarly, adding netting, shutters, or other mitigating features can also add to construction and maintenance costs. Thus, reducing the amount of transparent glass allowed on a building’s exterior may have minimal or substantial effects on construction costs, depending on how it is done. Similarly, it likely has positive effects on life-cycle costs but can also reduce the use of natural light and diminish the market value of a building.

Lighting in State Buildings

DGS advises that the bill’s requirements to lower lighting levels in State buildings applies to about 4,000 current State buildings, only about 20 of which, by its estimation, have the automatic control technologies mentioned in the bill. As DGS is supposed to reduce the lighting “to the extent practicable, as determined by the Department,” a reliable estimate

of the cost of this provision is not feasible. If DGS determines it can only reduce lighting in buildings that currently have the technology, there is no fiscal effect (except potential reductions in State utility bills). However, if DGS determines that many more buildings require the technology, the cost of installing it in a large number of buildings could be significant.

Additional Information

Prior Introductions: HB 986 of 2018 received a hearing in the House Health and Government Operations Committee and was withdrawn. Its cross file, SB 1009, was heard by the Senate Education, Health, and Environmental Affairs Committee, but no further action was taken on the bill.

Cross File: HB 136 (Delegate Hill, *et al.*) - Health and Government Operations and Appropriations.

Information Source(s): Department of General Services; Urban Green Council; U.S. Green Building Council; American Bird Conservancy; Department of Legislative Services

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