### **SB405\_Lighting.AudubonMidAtlantic.pdf**Uploaded by: Jim Brown



Maryland Office 2901 E. Baltimore St Baltimore, MD 21214

February 19, 2024

**To:** Chair Feldman and members of the Maryland Senate Committee on Education, Energy and the

Environment

From: Jim Brown, Policy Director, Audubon Mid-Atlantic

Subject: Favorable Testimony for Maryland SB 405 Outdoor Lighting - Standards and Use of State Funds

Audubon Mid-Atlantic submits this testimony in support of Senate Bill 405. Audubon Mid-Atlantic is the regional office of National Audubon Society, representing over 35,000 Marylanders who advocate for the protection of birds, bird habitat, and policies aiming to protect both birds and human communities in the face of increasing environmental challenges, habitat loss, pollution, and climate change. We work with partner organizations, government agencies, and local communities to protect birds and the places they need to survive now, and into the future. SB 405 will help the state of Maryland make decisions which both protect birds and help the state reach our ambitious climate and energy goals.

Audubon supports SB 405 for two important reasons:

- 1. The protection of birds who face serious threats from current lighting practices, will benefit from new lighting standards, and
- 2. The energy efficiency and climate change mitigation that will result in more sustainable lighting design guidelines will help Maryland reach our climate and energy goals.

Science tells us that birds become disoriented when flying over brightly lit urban and suburban areas. When birds fly into these areas, they become confused by the lights and the built environment becomes a deadly trap. Traditional lighting techniques paired with buildings with clear and reflective glass cause birds to collide with the buildings. These light pollution induced collisions kill or injure millions of birds each year. In Maryland we know that our songbirds, warblers and other iconic Maryland birds migrate at night, causing them to become disoriented and trapped in our hazard filled night sky. Aside from collisions, these light sources trap birds in hovering motions, disrupting natural migration patterns, which negatively affects breeding patterns. This is a significant threat to bird populations up and down the east coast. But the good news is there are technologies and practices which can reduce these threats, while still providing adequate lighting our society needs at night. SB 405 will enable the state of Maryland to consider and recommend these smart, modern, sustainable approaches to lighting, which do not endanger our bird populations.

From our Atlantic shoreline and Chesapeake Bay marshes to our urban parks and western Maryland mountains, birds in Maryland are under threat. They all travel through the built environment and will benefit significantly from reducing the threats that unnecessary light pollution causes them now. SB 405 will create the groundwork for reducing these threats and it will hold Mayland up as a leader in conservation planning.

In addition to establishing best practices for lighting, which will reduce light pollution and reduce threats to birds, SB 405 will also set standards for more efficiently using electricity in lighting. This will help Maryland reduce emissions, and meet the ambitious goals established in the 2022 climate solutions now act.

Science also tells us birds are in decline due to habitat loss and climate change. 1/3 of all Maryland bird species experienced significant population declines in the past 50 years. By setting energy efficient lighting standards in Maryland, SB 405 will support efforts to keep Maryland on track to meet our pollution and emissions reduction goals – mitigating the threat that climate change induced habitat loss is causing for Maryland's birds. SB 405 will lay the framework for demonstrating how planning for the built environment will have important co-benefits for conservation and biodiversity throughout the state. It will hold Maryland up as a leader in the protection of birds now and in the future.

Audubon Mid-Atlantic respectfully urges a favorable review of this legislation.

Thank You,

Jim Brown
Policy Director
Audubon Mid-Atlantic
Jim.brown@audubon.org

### Fulton SB405\_MDSierraClub\_fav 20 2024 final.pdf Uploaded by: Judith Fulton



**Committee** Education, Energy, and the Environment

Testimony on: SB405 "Outdoor Lighting - Standards and Use of State Funds"

**Position** Favorable

Hearing Date: February 20, 2024

The Maryland Chapter of the Sierra Club urges a favorable report on SB405. The bill expands the scope of a 2011 law requiring state-funded outdoor lighting fixtures that maximize energy conservation and minimize light pollution at state buildings and state facilities. It expands the existing provisions to state-funded outdoor lighting at parks, trails, and highways.

The bill also limits the color temperature of state-funded outdoor lighting to 3,000 Kelvin, consistent with 2016 American Medical Association (AMA) guidance. 3,000K is considered "warm white" and is less disruptive to the health and behaviors of nocturnal wildlife, including fireflies, and night pollinators. A study by Hood College in Frederick County found that fireflies drastically reduced their light-blinking behavior when exposed to just one tenth the light of a streetlamp using cooler colors, threatening their ability to mate, control mosquitoes, and pollinate flowers. The Bethany Beach Firefly is now rated "highly state rare" by the Department of Natural Resources and is found only in Wicomico County, partly due to light pollution. The bill also requires the Department of the Environment (MDE), in consultation with other agencies, to develop outdoor lighting standards that consider energy consumption, the environment, and public health and safety.

The benefit of this legislation is that it expands efforts to address the harmful effects of artificial lighting at night. As discussed in a January 2023 article in the journal *Science*,<sup>4</sup> excessive artificial lighting at night can have a detrimental impact on the welfare of animals and humans alike.

For over two decades, our state has recognized the need to address light pollution. In 2001, former Treasurer Nancy Kopp championed a joint resolution to establish the Task Force to Study Lighting Efficiency and Light Pollution in Maryland which issued an important report in 2002. Chapter 353 of 2011 established the current policy of requiring efficient/shielded fixtures for new/replacement outdoor lighting at state buildings and state facilities. In 2014 the Maryland Department of General Services and the Green Purchasing Committee (established by Chapter 594 of 2010) published specifications for the purchase of environmentally friendly

<sup>&</sup>lt;sup>1</sup> 2016 "American Medical Association adopts guidance to reduce harm from high intensity street lights," <a href="https://www.ama-assn.org/press-center/press-releases/ama-adopts-guidance-reduce-harm-high-intensity-street-lights">https://www.ama-assn.org/press-center/press-releases/ama-adopts-guidance-reduce-harm-high-intensity-street-lights</a>

<sup>&</sup>lt;sup>2</sup> Costin, K.J., and Boulton, A.M., "A Field Experiment on the Effect of Introduced Light Pollution on Fireflies (Coleoptera: Lampyridae) in the Piedmont Region of Maryland," *The Coleopterists Bulletin*, vol. 70, no.1, (2016), http://www.bioone.org/doi/10.1649/072.070.0110.

<sup>&</sup>lt;sup>3</sup> Ocean City Today, 7-14-2023, Where are all of Maryland's fireflies? | Lifestyle | oceancitytoday.com

<sup>&</sup>lt;sup>4</sup> Science, January 19, 2023, vol. 379, no. 6629, "Light Pollution is Skyrocketing," https://www.science.org/doi/10.1126/science.adf4952

<sup>&</sup>lt;sup>5</sup> March 2002 Report of the Task Force to Study Lighting Efficiency & Light Pollution in Maryland, <a href="https://msa.maryland.gov/megafile/msa/speccol/sc5300/sc5339/000113/000000/000008/unrestricted/20030006e.pdf">https://msa.maryland.gov/megafile/msa/speccol/sc5300/sc5339/000113/000000/000008/unrestricted/20030006e.pdf</a>

### lighting.6,7

By regulating outdoor lighting to modern scientific environmental, safety and efficiency standards, SB405 helps our state government to continue to lead by example in efforts to address harms caused by light pollution.

For these reasons, we urge a favorable report on SB405.

The committee may wish to consider an amendment that would (1) direct the Maryland Green Building Council or the Maryland Green Purchasing Committee to update its current standards after reviewing the latest information on light pollution and on color temperature (such as the AMA's 2016 guidance) and (2) delete the language requiring MDE to develop related standards. This approach is likely to be less costly than developing this expertise at MDE and could implement proven solutions efficiently and prudently.

Judith Fulton Maryland Sierra Club jfulton5@gmail.com Josh Tulkin Chapter Director Josh.Tulkin@MDSierra.org

<sup>&</sup>lt;sup>6</sup> Maryland Green Purchasing Committee Approved Specification – Lighting Products <a href="https://dgs.maryland.gov/Documents/GreenPurchasing/Specs/LightingProductsSpecification.pdf">https://dgs.maryland.gov/Documents/GreenPurchasing/Specs/LightingProductsSpecification.pdf</a>

<sup>&</sup>lt;sup>7</sup> Maryland Department of General Services lighting resource page on Green Purchasing https://dgs.maryland.gov/Pages/GreenPurchasing/Resources/Lighting.aspx

### **2024 K. Cetrone SB 167 Senate Side.pdf** Uploaded by: Kelsey Cetrone

### HB 806/SB0167— Physician Assistants — Revisions (Physician Assistant Modernization Act of 2024)

#### Support Testimony of Kelsey Cetrone

# Physician Assistant University of Maryland Medical Center – Cancer Center 22 South Greene St Baltimore, MD 21201 Kelsey.cetrone@umm.edu

Good afternoon, members of the Senate Committee.

My name is Kelsey Cetrone, a Maryland licensed provider, working for University of Maryland Medical Center in Baltimore, Maryland. I support the bill, SB0167 - Physician Assistant Modernization Act of 2024 legislation put forth by the Maryland Academy of Physician Assistants (MdAPA).

As you know, Maryland is facing significant healthcare provider shortages. These shortages are placing undue pressure on the practicing providers and limiting patients access to care, particularly within primary care, women's health, behavioral health, underserved and rural communities. Physician assistants are trained on an accelerated medical model and a team-based approach, which includes collaboration with Physicians and other health professionals. The administrative barriers that exist when hiring PAs in Maryland, increase both the administrative and cost burden on hospitals, private clinics and all healthcare facilities. The proposed legislation focuses on removal of these administrative barriers, which delay the employment and utilization of well-trained, compassionate PAs, who can assist in reducing the gap in access to care, as well as the unprecedented healthcare shortage.

As a PA within my practice, our current supervising physician is stepping down and myself along with the other PA's have to resubmit and repay the delegation agreement and fee that accompanies it with a new supervising physician. However, only a certain number of physicians can have PA's assigned to them. I believe this impacts the decision for some supervisors to hire less PA's within their practice.

I ask that you support and enact this legislation on behalf of our patients, communities, and state.

Thank you for your time and commitment to Maryland,

**Kelsey Cetrone, PA-C** 

### **SB405 - Maryland LCV SUPPORT - Outdoor Lighting.pd**Uploaded by: Kristen Harbeson



Kim Coble Executive Director

SUPPORT: SB405- Outdoor Lighting - Standards and Use of State Funds

February 22, 2024

2024 Board of Directors Chair Feldman and Members of the Committee:

Lynn Heller, Chair
The Hon. Nancy Kopp,
Treasurer
Kimberly Armstrong
Candace Dodson-Reed
Verna Harrison
Melanie Hartwig-Davis
Charles Hernick
The Hon. Steve Lafferty
Patrick Miller
Bonnie L. Norman
Katherine (Kitty)
Thomas

Maryland LCV supports SB405 - Outdoor Lighting - Standards and Use of State Funds, and we thank Senator Smith for his leadership on this issue.

This bill is consistent with the goals of Maryland's Climate Pollution Reduction Plan, which presents a plan to reduce greenhouse gas emissions 60% by 2031, and to achieve net zero emissions by 2045. In this plan, MDE calls for an all of society approach, where each sector of our economy will be called on to use best practices to reduce emissions. HSB405 will reduce the electricity consumption of tens of thousands of lighting fixtures across the state, helping to contribute to these critical goals.

Further, according to a 2023 report from the National Wildlife Federation, outdoor lighting can have numerous detrimental effects on wildlife. Habitats are fragmented by overlit areas that create boundaries within limited territories of keystone species such as cougars. Songbirds are negatively impacted by artificial lighting, which interferes with the functioning of their internal compass during migration. Sea turtle hatchlings can turn towards the light upon emerging, instead of the critical pathway to reach the sea. These are just a few examples of how the improper deployment of outdoor lighting can have serious consequences for mammals, insects, birds, and even sealife.

SB405 will strengthen existing state law, by expanding the scope from the current focus on state buildings, to include our state highways, parks and trails. It requires that outdoor lighting procurement decisions include consideration of energy conservation, environment, public health and safety. The bill calls on the Maryland Department of the Environment to develop standards, based upon these requirements. It also includes a requirement that limits the light temperature of each fixture to 3,000 degrees Kelvin, in keeping with global recommendations from Dark Sky International.

Maryland LCV urges a favorable report on this important bill, which will have positive impacts on wildlife habitat, reducing light pollution and helping to achieve our climate goals.

### MOS SB0405 Outdoor Lighting.pdf Uploaded by: Kurt Schwarz

#### MARYLAND ORNITHOLOGICAL SOCIETY



February 28, 2023

Bill: https://mgaleg.maryland.gov/mgawebsite/Legislation/Details/HB0957

Committee: Education, Energy, and the Environment

Testimony on: SB0405 Outdoor Lighting and Use of State Funds

#### **Position: Support SB0405**

The Maryland Ornithological Society MOS strongly supports SB0405, and urges the Committee to issue a favorable report. This bill would require the State to develop outdoor lighting standards that take into consideration environmental risks, and would forbid use of state funds to install or replace certain outdoor lights (luminaires) on any state park, trail, or highway that did not meet certain standards. These standards would essentially direct light downward, and otherwise mitigate light pollution.

We support efforts to mitigate light pollution because it contributes to death of millions of birds per year worldwide. Light pollution can interfere with migration, blotting out the stars, which in part help bird to migrate. In foggy conditions, artificial light can lure migrating birds, causing disorientation and collision. A dramatic case occurred in Chicago at McCormick Place Lakeside Center on October 10, 2023. Over 900 migrating birds were killed flying into the building that night, in part, due to bright, unshielded light.

Aside from mass killings, and migration going awry, light pollution has prompted some species to nest as much as a month earlier than typical. This can lead to a disconnect between when chicks hatch, and when insect prey emerges. This can reduce the fledging of young, is sufficient food is not available for chicks.<sup>3</sup>

 $^{1}$  Light Pollution Threatens Birds across the World, Convention on the Conservation of Migratory Species of Wild Animals, Bonn, 14 Ma7 2022,

https://www.cms.int/en/news/world-migratory-bird-day-light-pollution-threatens-birds-across-world-solutions-are-readily

https://climate.nasa.gov/news/3047/noise-and-light-pollution-from-humans-alter-bird-reproduction/

<sup>&</sup>lt;sup>2</sup> Sottie, Zoe, More than 1,000 birds killed in one night after hitting the same Chicago building, CNN, October 10, 2023, <a href="https://www.cnn.com/2023/10/10/us/dead-birds-chicago-building-scn-trnd/index.html">https://www.cnn.com/2023/10/10/us/dead-birds-chicago-building-scn-trnd/index.html</a>

<sup>&</sup>lt;sup>3</sup> Henry, Rachel, Noise and Light Pollution From Humans Alter Bird Reproduction, NASA, Global Climate Change, December 3, 2020.

Curiously, the Maryland General Assembly instituted a task force to study lighting efficiency and light pollution in Maryland. That task force recognized light pollution as a threat to migrating birds.<sup>4</sup> It is not clear which, if any, of the task force recommendations have been implemented.

Birds crashing into buildings is a well known problem in Maryland. Lights Out Baltimore has documented over 7000 birds dead or injured in Baltimore since 2008, rescuing 2500 birds and 127 bats.<sup>5</sup> An average of 450 birds are found per year. Multiple this across the landscape to grasp the scale of carnage from collisions. Up to a billion birds per year from collisions with windows.<sup>6</sup>

North America has lost almost 30% of its birds since 1970.<sup>7</sup> Reducing light pollution will help mitigate one of the many threats faces by our declining bird populations. MOS as the Committee to issue a favorable report for SB0405.

Sincerely,

Kurt R. Schwarz Conservation Chair Emeritus Maryland Ornithological Society

www.mdbirds.org

<sup>&</sup>lt;sup>4</sup> Task Force to Study Lighting Efficiency and Light Pollution in Maryland, March 2002,

https://msa.maryland.gov/megafile/msa/speccol/sc5300/sc5339/000113/00000 0/000008/unrestricted/20030006e.pdf

<sup>&</sup>lt;sup>5</sup> Lights Out Baltimore, <a href="https://www.lightsoutbaltimore.org/index.html">https://www.lightsoutbaltimore.org/index.html</a>

<sup>&</sup>lt;sup>6</sup> Loss, Scott R., et al Bird-building collisions in the United State: Estimates of annual mortality and species vulnerability, The Condor, Volume 116, Issue 1, 1 February 2014, <a href="https://academic.oup.com/condor/article/116/1/8/5153098?login=false">https://academic.oup.com/condor/article/116/1/8/5153098?login=false</a>

<sup>&</sup>lt;sup>7</sup> Rosenberg, Kenneth V. et al, Decline of the North American avifauna, Science, VOL 366, NO. 6451, 19 September 2019,

https://www.science.org/doi/10.1126/science.aaw1313?adobe mc=MCORGID%3D242B6472541199F70A4C98A6%2540AdobeOrg%7CTS%3D1707754028

# **Testimony SB 405.pdf**Uploaded by: Lisa Caprioglio Position: FAV

My name is Lisa Caprioglio. I am a resident of District 20. I am submitting this testimony in support of Senate Bill 405 Development of Outdoor Lighting Standards.

Thank you, Senator Smith, for sponsoring this bill. Excessively bright white lights on Long Branch Trail have negatively impacted my life every night since they were installed in January 2022.

The new LED lights were ten times brighter than recommended by the Illuminating Engineering Society and the color temperature was significantly whiter than the recommended 2200 Kelvin.

I could not sleep. The lights disrupt my body's circadian rhythms. There is awareness of the effects of phone screens on sleep. The park lights are an order of magnitude brighter than phones.

I contacted Montgomery Parks requesting a change and they emailed this response: "The recent upgrades of the lights are part of our routine maintenance efforts, and the lighting is a type used throughout our park system. The lighting is directed towards the trail in accordance with Parks' installation practices, and our staff has determined the lighting is appropriate for the need it serves. With these considerations in mind, the lights will not be altered."

This is not limited to Montgomery Parks. New lights on the Carroll Avenue Bridge over Sligo Creek are bright white. New lights on Park Valley Bridge over Sligo Creek are bright white.

This underscores the need for SB 405. Existing rules on outdoor lighting do not take current scientific standards into account. Staff with no special training make decisions regarding public health. Science must take precedence over intuition. I request a favorable report on SB 405.

### **SB405 - National Aquarium - Support.pdf** Uploaded by: Maggie Ostdahl



Date: February 20, 2024

Bill: SB 405 - Outdoor Lighting - Standards and use of state funds

Position: Support

Dear Chair Feldman and Members of the Committee:

The National Aquarium respectfully requests a favorable report for Senate Bill 405 Outdoor Lighting – Standards and use of state funds, which would expand existing law regarding state-funded outdoor lighting fixtures to also require that state-funded outdoor lighting for parks, trails and highways maximize energy conservation and minimize light pollution.

Combatting climate change and saving wildlife and habitats are two of the National Aquarium's three strategic conservation goals. We applaud this legislation that would both increase energy efficiency of outdoor lighting while also improve upon the state's ability to address harmful impacts of artificial light at night.

The impacts of light pollution are significant for thousands of species worldwide. Light pollution can be particularly harmful to nocturnal wildlife that rely on natural lighting patterns for navigation, nesting, mating and other behaviors key to survival. Outdoor lighting has been shown to lead to habitat loss and fragmentation in the ecosystems that wildlife depend upon.<sup>1</sup>

The committee may want to consider additional language to ensure wildlife impacts are incorporated into the proposed lighting standards. As drafted, it is unclear whether wildlife impacts must be considered when developing outdoor lighting standards. We encourage "wildlife" be added to the list of considerations under \$12-1301(A).

We appreciate your work on this important issue. We urge the Committee to issue a favorable report.

Contact:

Ryan Fredriksson Vice President, Government Affairs 410-385-8276 rfredriksson@aqua.org Maggie Ostdahl
Sr. Conservation Policy Manager
410-385-8275
mostdahl@agua.org

<sup>&</sup>lt;sup>1</sup> Sordello, R. et. al. 2022. A plea for a worldwide development of dark infrastructure for biodiversity – Practical examples and ways to go forward. *Landscape and Urban Planning* (219). https://doi.org/10.1016/j.landurbplan.2021.104332

### **Dr Mark Southerland Testimony in Support of Outdoo**Uploaded by: Mark Southerland



Maryland General Assembly – Senate EEE Committee – February 20, 2024

#### SB405 - Outdoor Lighting - Standards and Use of State Funds

#### TESTIMONY OF DR. MARK SOUTHERLAND – FAVORABLE

I am a professional ecologist who has served on the boards of Maryland Science Council, Maryland Water Monitoring Council, Howard County Environmental Sustainability Board, Howard County Conservancy, and Patapsco Heritage Greenway. I represent **Safe Skies**Maryland and Maryland Ornithological Society, a statewide organization dedicated to saving birds, wildlife, and people.

Artificial Light At Night (ALAN) is seriously bad for animals including humans. This bill is an important step toward reducing the damaging effects of the wrong type of light, in the wrong amounts, and in the wrong places.

#### **Human Impacts**

Exposure to ALAN suppresses melatonin secretion and tends to delay sleep. Circadian misalignment caused by chronic ALAN exposure, including excessively bright lights from neighboring public facilities, may have negative effects on psychological, cardiovascular and/or metabolic functions. We have likely yet to understand all the negative impacts of ALAN on human health and welfare.

#### **Birds Impacts**

ALAN can cause confusion, disorientation, and exhaustion in birds—directly impacting their ability to migrate. For example, migratory birds (including seabirds, ducks, geese, sandpipers and songbirds of all kinds) can be attracted to ALAN as far as 5 kilometers away, become disoriented, and circle structures for extended periods of time, leading to exhaustion or accelerated use of energy stores critical for migration, and fatal collision with buildings and infrastructure. ALAN also causes birds to nest earlier, by up to a month, which could result in asynchrony between nesting and peak food availability. ALAN and other impacts have reduced U.S. bird populations by 29% since 1970.

#### **Insect Apocalypse**

The world has lost 5% to 10% of all insect species in the last 150 years. ALAN is contributing to this decline by compromising essential defensive behaviors of insects when near artificial light, making them vulnerable to predators. Billions of moths and other nocturnal insects are killed each year just by sheer exhaustion at being unable to escape the light if they are not immediately killed by a hot light source. Fireflies are particularly affected, as ALAN drastically reduces their light-blinking behavior, threatening their ability to mate and pollinate flowers.

We strongly encourage the committee to make a favorable report on this bill.

Thank you.

## SB0405-EEE\_MACo\_LOI.pdf Uploaded by: Dominic Butchko Position: INFO



#### Senate Bill 405

Outdoor Lighting - Standards and Use of State Funds

MACo Position:

LETTER OF INFORMATION

To: Education, Energy, and the Environment

Committee

Date: February 20, 2024 From: Dominic J. Butchko

The Maryland Association of Counties (MACo) offers the following **LETTER OF INFORMATION** regarding SB 405. As drafted, this bill would place certain limitations on the types of lights that can be used at state facilities and directs the Maryland Department of the Environment (MDE) to establish certain lighting standards.

While initially limited to state facilities and buildings, SB 405 may affect county projects as a result of the lighting standards developed by MDE. Counties recognize the bill's intent of ensuring certain lighting does not interfere with animal populations. In this era of climate change, it is important to better harmonize infrastructure with broader environmental forces, but it is also worth noting that the proposed 3000-Kelvin standard would have significant public safety implications.

Simply put, the higher the Kelvin-rating, the clearer road obstructions, hazards, other vehicles, and pedestrians appear. At athletic fields and in other circumstances, 4000-7500 Kelvin or more may be necessary for visibility and safety. By mandating a standard lower than what is typically used in certain cases, the state could potentially be putting our mutual constituents' safety at risk.

Counties ask that if the Committee does move forward with SB 405, that they give due consideration to the broader public safety and infrastructure considerations - especially those regarding transportation and recreation.

### SB0405 - SHA - Outdoor Lighting\_LOC\_FINAL.pdf Uploaded by: Patricia Westervelt

Position: INFO



Wes Moore Governor Aruna Miller Lieutenant Governor Paul J. Wiedefeld Secretary William Pines, P.E. Administrator

February 20, 2024

The Honorable Brian J. Feldman Chair, Senate Education, Energy, and the Environment Committee 2 West, Miller Senate Office Building Annapolis, Maryland 21401

RE: Letter of Concern - Senate Bill 405 - Outdoor Lighting - Standards and Use of State Funds

Dear Chair Feldman and Committee Members:

The Maryland Department of Transportation (MDOT) offers the following letter of concern for the Committee's consideration on Senate Bill 405.

Senate Bill 405 requires the Maryland Department of the Environment to collaborate with several State agencies, including the State Highway Administration (SHA), to develop outdoor lighting standards that consider the impact of energy consumption, the environment, public health, and public safety. Additionally, Senate Bill 405 amends and applies an existing prohibition in State law against using State funds to install or replace a permanent outdoor luminaire to installations in parks and on trails and highways without considering several factors such as energy conservation, light temperature, illumination production, and lumen output.

Appropriate lighting is necessary to ensure a safe road network for all users. According to the Federal Highway Administration (FHWA), the nighttime fatality rate on the Nation's roadways is three times higher than the daytime rate, and 76% of pedestrian fatalities occur at night. FHWA specifically highlights the benefits of effective roadway lighting, stating that "lighting can reduce crashes up to 42% for nighttime injury pedestrian crashes at intersections, 33-38% for nighttime crashes at rural and urban intersections, and 28% for nighttime injury crashes on rural and urban highways." SHA is committed to maintaining an appropriate level of roadway lighting in areas with high volumes of pedestrian and bicycle traffic in support of the State's mission to achieve Vision Zero. Similarly, other roadway features, such as bridges and underpasses, require proper lighting infrastructure to provide a safe level of visibility and for security of the infrastructure. To ensure this, SHA follows its Lighting Design Guide when planning the location and installation of highway lighting infrastructure. The Lighting Design Guide considers safety, light pollution, energy conservation, and maintenance requirements in its recommendations.

SHA is concerned by the provisions of this bill that limit its ability to select and implement luminaires that most appropriately address road safety needs on the State system. For example, the requirement that the light temperature of a luminaire not exceed 3,000 Kelvin will impact SHA's ability to deliver safe and effective lighting along its road system. According to research from the National Academies of Sciences, Engineering, and Medicine, 4000K LED lighting provides advantages over other lighting levels for driver detection of objects in the roadway, including pedestrians and hazards. This effect is maximized in conditions where lighting solutions result in a high surround ratio.

The Honorable Brian J. Feldman Page Two

SHA understands and appreciates the importance of appropriately designed lighting for the environment, human health, and light pollution. For this reason, it is critical for decisions around lighting applications to be based on appropriate illumination engineering calculations and the context in which the application is used. The FHWA maintains that the balance between the needs of the road user and mitigation of potential impacts of a lighting system must be approached holistically.

In addition, current law creates an exception to the general rule prohibiting procurement of certain luminaires if the luminaire is required for storm operations. Senate Bill 405 modifies this exception and restricts its application to luminaires required for temporary storm operations. Given that all storm operations are temporary conditions, MDOT requests clarification on how the exception would be applied if the bill were to pass as drafted.

Given the clear impact of lighting design and implementation on public safety, it is imperative that SHA maintain the ability to ensure the engineering of lighting solutions is based on accepted best practices to maximize public safety while working to address the overall intent of this legislation.

The Maryland Department of Transportation respectfully requests the Committee consider this information when deliberating Senate Bill 405.

Sincerely,

Matt Mickler
Deputy Director (Acting)
Office of Policy and Research
Maryland State Highway Administration
410-545-5629

Pilar Helm Director Office of Government Affairs Maryland Department of Transportation 410-865-1090