TOWN OF FAIRFAX
STAFF REPORT
Department of Planning and Building Services

TO:	Fairfax Planning Commission
DATE:	May 16, 2024
FROM:	Jeffrey Beiswenger, AICP, Planning & Building Director Alexander Robbins, Planning Intern
ACTION:	Conduct a study session on a dark sky ordinance and discuss implementation options
CEQA STATUS:	Not applicable to a study session.

BACKGROUND

Light pollution degrades the ability to view the night sky. The impact of light pollution can be reduced with thoughtful outdoor lighting design and local governments can adopt regulations to require the use of certain light pollution reduction techniques. The purpose of this study session is to introduce techniques to reduce light pollution from outdoor lighting and to discuss possible next steps. This staff report provides a brief overview of concepts to be discussed and more detail will be provided in the form of a powerpoint presentation

One proponent of light pollution reduction is the International Dark Sky Association (IDA) which has developed a model lighting ordinance. The IDA also certifies communities that protect dark sky sites through lighting policies. The IDAs model ordinance, as well as light pollution reduction ordinances from other jurisdictions contain useful ideas that could help Fairfax craft ordinance language.

DISCUSSION

<u>International Dark Sky Communities</u>
One possible outcome of light pollution reduction efforts in Fairfax would be to become certified as an International Dark Sky Community. According to the website, darksky.org, a Dark Sky Community is place that has shown exceptional dedication to the preservation of the night sky through a quality outdoor lighting ordinance, dark sky education, and citizen support.

Becoming recognized as a Dark Sky community requires a rigorous application process and communities must meeting the following eligibility requirements:

1. Adopt a lighting policy. According to the IDA, a lighting policy is framework to adopt ordinances, bylaws, lighting management plans, planning documents, codes, or other legal documentation to keep the agency accountable.

2. Retrofitting all publicly owned lighting within five years.

3. Public outreach to encourage residents to participate, provide examples of light pollution reduction to the public and providing educational opportunities.

Short of becoming a certified Dark Sky Community, the Town could adopt light pollution reduction techniques and accomplish many of the same objectives recommended by the IDA. The expense of achieving certification could be an obstacle, especially related to "retrofitting all publicly owned lighting within five years". This would need to be studied in more detail to determine if it is achievable based on the limited budget available to Fairfax for public improvements.

Components of a Light Control Ordinance

The objectives of a light control ordinance include:

- Providing enough light to conduct outdoor activities in a safe and secure setting.

- Minimizing adverse offsite impacts of lighting such as light trespass and obtrusive bright lights.

- Reducing light pollution (aka "sky glow") and improve the nighttime sky of stargazing.

- Protecting the natural environment for the adverse effects of night lighting.

- Conserving energy.

A light control ordinance, otherwise known as a light pollution reduction ordinance, include a combination of the following components.

- Regulations on Timing. The purpose of outdoor lighting is to provide visibility for safety, security and/or convenience. However, the lighting may not be needed at all times. Regulations can include curfews, which require lights to be extinguished after a certain hour or at the close of business, in the case of commercial uses. The ordinance can also require the dimming of lights after a certain hour or based on the availability of natural lights. LED lights and light sensor are readily available to achieve this purpose.

- Limits on Brightness. The brightness from an individual fixture can be limited or the total light output from a site can be limited with a "budget" based on the site size. The output from multiple lighting fixtures can be added up and required to

fall under the budget.

- Color (or temperature) Controls. Lighting that interferes the most with starlight is in the blue or cold-white temperature spectrum. Pure white light is measured at 5,000 Kelvin. Some LED light can be 7,000 Kelvin, which is white/blue in color. LED lights are available in the 2,700 Kelvin range which has some yellow which is more friendly to stargazing. Old streetlights tend to be High Pressure Sodium (HPS) which are generally less than 2,000 Kelvin and are yellow/orange in color. From a color perspective, the color of HPS superior to LEDs, but HPS fixtures have disadvantages, such as less directional and dimming controls, and energy inefficiencies.

- Shielding / directional controls. An important consideration for outdoor lighting is to provide light where it is needed and only where it is needed. Lighting that spills offsite should be avoided and shielding ("cut-off" features) can be used to limit offsite impacts. Unshielded lights, uplighting and other types of lights that create light trespass should be avoided.

NEXT STEPS

The purpose of this study session is to provide the commission with an overview of possible components of a light pollution ordinance and to enable the commission to provide input. Next steps include the formulation of a policy document related to lights owned by the Town (streetlights and other lights) and recommended code updates that would regulate private property for consideration by the Town Council.