

#### CITY OF GRASS VALLEY CITY COUNCIL MEETING

#### GENERAL PUBLIC COMMENT SIGN IN SHEET

WELCOME to the City of Grass Valley City Council meeting! Public Comments provide an opportunity for the public to address the City Council on any subject which is not on the agenda but in the jurisdiction of the council. If you wish to speak, please indicate in the appropriate box when you sign in and take the number corresponding to your name. Each individual can have up to 3 minutes of public comment. At the beginning of the meeting, there will be an allotted 30 minutes of general public comments and the remainder of comments will be heard at the end of the agenda. Speakers will be called in order of the numbers given.

When you are recognized by the mayor:

- 1. Please stand before the podium and give your name and address. (optional)
- 2. Please limit your comments to three minutes per speaker.
- 3. If previous speakers have made the same point, you may simply indicate your support or disagreement, unless you have new information.

Thank you for your participation. 10/28/75

#'s	Print Name or N/A	Address (optional)	Self/Business (optional)
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2	LIZ NEWMAN		PAWS8
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PRESS RELEASES

### AMA adopts guidance to reduce harm from high intensity street lights



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Jun 14, 2016

CHICAGO — Strong arguments exist for overhauling the lighting systems on U.S. roadways with light emitting diodes (LED), but conversions to improper LED technology can have adverse consequences. In response, physicians at the Annual Meeting of the American Medical Association (AMA) today adopted guidance for communities on selecting among LED lighting options to minimize potential harmful human and environmental effects.

Converting conventional street light to energy efficient LED lighting leads to cost and energy savings, and a lower reliance on fossil-based fuels. Approximately 10 percent of existing U.S. street lighting has been converted to solid state LED technology, with efforts underway to accelerate this conversion.

"Despite the energy efficiency benefits, some LED lights are harmful when used as street lighting," AMA Board Member Maya A. Babu, M.D., M.B.A. "The new AMA guidance encourages proper attention to optimal design and engineering features when converting to LED lighting that minimize detrimental health and environmental effects."

#### Membership Moves Medicine™

- · Free access to IAMA Network™ and CME
- · Save hundreds on insurance
- Fight for physicians and patient rights

Join the AMA today High-intensity LED lighting designs emit a large amount of blue light that appears white to the naked eye and create worse nighttime glare than conventional lighting. Discomfort and disability from intense, blue-rich LED lighting can decrease visual acuity and safety, resulting in concerns and creating a road hazard.

In addition to its impact on drivers, blue-rich LED streetlights operate at a wavelength that most adversely suppresses melatonin during night. It is estimated that white LED lamps have five times greater impact on circadian sleep rhythms than conventional street lamps. Recent large surveys found that brighter residential nighttime lighting is associated with reduced sleep times, dissatisfaction with sleep quality, excessive sleepiness, impaired daytime functioning and obesity.

The detrimental effects of high-intensity LED lighting are not limited to humans. Excessive outdoor lighting disrupts many species that need a dark environment. For instance, poorly designed LED lighting disorients some bird, insect, turtle and fish species, and U.S. national parks have adopted optimal lighting designs and practices that minimize the effects of light pollution on the environment.

Recognizing the detrimental effects of poorly-designed, high-intensity LED lighting, the AMA encourages communities to minimize and control blue-rich environmental lighting by using the lowest emission of blue light possible to reduce glare. The AMA recommends an intensity threshold for optimal LED lighting that minimizes blue-rich light. The AMA also recommends all LED lighting should be properly shielded to minimize glare and detrimental human health and environmental effects, and consideration should be given to utilize the ability of LED lighting to be dimmed for off-peak time periods.

The guidance adopted today by grassroots physicians who comprise the AMA's policy-making body strengthens the AMA's policy stand against light pollution and public awareness of the adverse health and environmental effects of pervasive nighttime lighting.

#### **Media Contact**

AMA Media & Editorial Phone: (312) 464-4430 media@ama-assn.org

#### **About the American Medical Association**

The American Medical Association is the physicians' powerful ally in patient care. As the only medical association that convenes 190+ state and specialty medical societies and other critical stakeholders, the AMA represents physicians with a unified voice to all key players in health care. The AMA leverages its strength by removing the obstacles that interfere with patient care, leading the charge to prevent chronic disease and confront public health crises and, driving the future of medicine to tackle the biggest challenges in health care.

Improving Public Health

Annual Meeting of the AMA House of Delegates

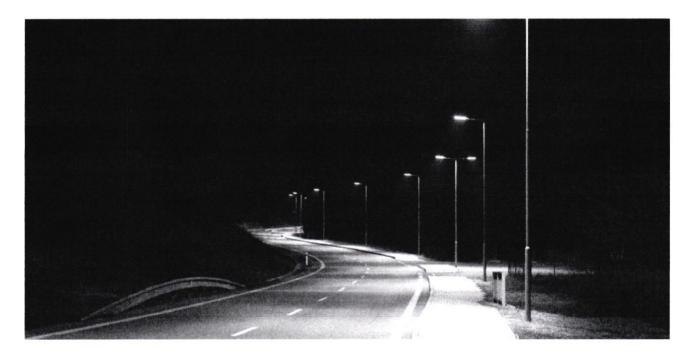






## Artificial light at night linked to raised type 2 diabetes risk, study reports

#### 2 minute read



- · Study sheds light on risk of artificial light at night
- Artificial light at night alters our circadian rhythm
- Changes in our circadian rhythm impair the body's ability to control blood sugar levels

According to a new study, being exposed to outdoor artificial light at night, such as street lights, and urban light pollution, increases the risk of type 2 diabetes.

Researchers analysed data from the China Noncommunicable Disease Surveillance Study, which included a sample of the general population from 162 different areas in 2010.

Participants' weight, body mass index and blood samples were taken to establish HbAlc.

Participants were then assigned an average outdoor light-at-night exposure level based on image data of the Earth from the US Defense Meteorological Satellite Program. Light exposure was divided into five groups ranging from most to least exposure.

- · Altering diet plan and circadian clock affects vital fat tissue
- The time you go to sleep can affect your heart, researchers claim

The study revealed that the group with the highest exposure to light-at-night had a 28% increase in diabetes prevalence when compared to the group with the lowest exposure.

This is because of the interference the light had on the body's production of melatonin, the hormone that helps regulate our circadian rhythms.

Artificial light at night disrupts the human body clock, compromising the body's ability to regulate blood sugar levels.

The study reports that "Our findings contribute to the growing evidence that light-at-night [LAN] is detrimental to health and point to outdoor LAN as a potential novel risk factor for [type 2] diabetes."

The paper was published in Diabetologia journal.

Published on 18 November 2022

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**Conor Seery** 

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## Light pollution harms our health and wellbeing.



Over the past 100 years, humans have transformed the night, erasing the natural darkness with which we evolved. While artificial light at night is crucial to our modern world, it comes at a cost. Increasing scientific research indicates that artificial light at night has detrimental effects on human health and well-being.



#### Circadian rhythm disruption

Largely influenced by the light and dark, our circadian rhythm is our body's natural 24-hour regulating clock. Circadian disruption occurs when our internal clock is out of sync with the day-night cycle. Circadian disruption has been linked to an increased risk of obesity, diabetes, mood disorders, reproductive problems, and cancers.



#### Decreased melatonin production

While we are still learning about the relationship between artificial light and human health, we know that exposure to light at night—even at dim levels—can suppress the body's production of melatonin, a hormone that regulates our sleep—wake cycle, metabolism, and immune system.



#### Glare impairs vision

Irresponsible outdoor lighting at night can increase dangers rather than safety. Overly bright and poorly shielded lighting creates blinding glare, impairing vision, leading to dangerous missteps and accidents. Blue light, often used in newer LED streetlights, is more likely to create dangerous glare.



## Live a <u>healthy</u> life in a world filled with artificial light.

- Use fully shielded outdoor light fixtures to minimize the light that streams into your home.
- Use indoor light bulbs that emit warm white light with a color temp. of 3000K or lower.
- When it's time for bed, keep your bedroom dark by using blackout curtains and covering all light sources such as clock radios and charging stations.
- If you need a nightlight, use one with dim red or amber light. Red light is least likely to be disruptive.
- Try not to use devices with screens 30-minutes prior to sleeping. If you must use devices at night, install a color temperature app that reduces blue light levels.
- Work with your neighbors and local government to reduce light pollution in your community.





Learn more about light pollution and human health.

darksky.org/resources/what-is-light-pollution/effects/human-health

## Light pollution destroys critical wildlife habitat.



Plants and animals depend on natural light cycles to govern lifesustaining behaviors such as reproduction, nourishment, sleep, and protection from predators. Scientific evidence suggests that artificial light at night has deadly effects on many creatures, contributing to the decline of biodiversity worldwide.



#### Migratory birds

Artificial lights can cause migrating birds to wander off course towards dangerous nighttime landscapes and cities. Millions of birds die colliding with needlessly illuminated buildings and towers every year.



#### Sea turtles

Hatchling sea turtles find the sea by detecting the bright horizon over the ocean. Artificial lights draw them away from the ocean. In Florida alone, millions of hatchlings die this way every year.



#### And many more...

We are just starting to understand the devastating effects of artificial light on habitats. Every year, new research adds even more wildlife to the list of affected animals, including:

- Hummingbirds
- Wallabies
- Little penguin
- Zebrafish
- Sweat bees
- Songbirds
- Peahens
- Bats
- · Owls Mice
- Seabirds
- Monarchs
- Atlantic salmon

Insects

Geckos

Fireflies

- Zooplankton
- European perch

### Protect wildlife through sensitive lighting choices.

- · Get to know your neighborhood at night. It's hard to protect what you're not familiar with.
- · Use only fully shielded, fixtures for all outdoor lighting, so lights shine down, not up.
- · Use only the right amount of light needed. Too much light is wasteful and harms wildlife.
- · Install timers and dimmer switches and turn off lights when not in use. If you must have security lighting, use motion sensors.
- · Turn off lights in office buildings and homes when not in use.
- · Use only lighting with a color temperature of 3000 and below to reduce the blue cool light that is more harmful to wildlife.
- Work with your neighbors and local governments to ensure outdoor lighting isn't harming the wildlife in your area.

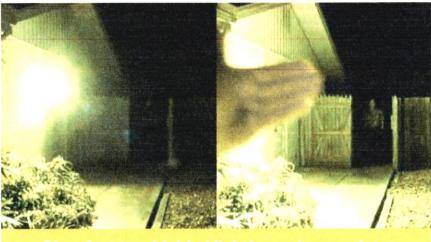




Learn more about light pollution and wildlife habitats.

darksky.org/resources/what-is-lightpollution/effects/wildlife-ecosystems

# Bright lights do not equate to greater safety.



Glare from unshielded lighting reduces safety.

Lighting up the nighttime environment does not necessarily increase safety and security. Effective lighting that helps people be safe—not just feel safe—is a win-win situation for everyone.

#### Busting the myth of bright lights and safety.



## At home: Poor lighting can create a false sense of security.

Poorly designed outdoor lighting can backfire on safety. Bright and misdirected lights create shadows for criminals to hide, and some crimes, like vandalism, thrive in well-lit areas. Floodlights, for example, may highlight potential targets.



## In town: Light for light's sake doesn't equal increased safety.

While towns, cities, and businesses aim to enhance safety with lighting, poorly aimed and inadequately shielded lights can attract criminals. A Chicago study identified a correlation between increased crime and overly bright alleyways.



### On the road: bad lighting creates unsafe driving conditions.

Inadequate roadway lighting causes glare, contributing to accidents, especially affecting older individuals. A 2015 Journal of Epidemiology and Community Health study revealed that streetlights don't effectively prevent accidents or crime but they do cost a lot of money.



## Make your home safer with smart lighting choices.

- Use fully shielded, dark-sky friendly fixtures so light shines where it's needed and does not create glare or extreme contrasts.
- Only use lights when and where needed. Install timers and dimmer switches, and turn off lights when not in use. If you must have security lighting, use motion sensors.
- Use the right amount of light.
   Too much light is wasteful and impairs vision.
- Use long-wavelength lights with a red or yellow tint to minimize negative health effects.
- Work with your local government and community to improve lighting conditions along roadways and shared spaces.
- Cities and towns can restrict the use of bright signs and flashing lights near roadways.

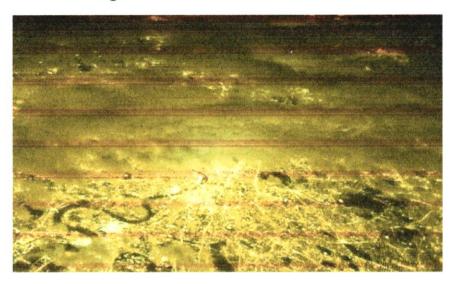




Learn more about light pollution, crime, and safety.

darksky.org/resources/what-is-light-pollution/effects/safety

# Light pollution wastes money and resources.



Lighting levels that are higher than necessary and light that shines when and where it's not needed is wasteful. Wasting energy on bad lighting design has huge economic and environmental consequences.

#### Tracking the cost of light pollution.



#### Light pollution wastes billions of dollars.

DarkSky estimates that 30 percent of all outdoor lighting in the U.S. is wasted, mostly due to unshielded or excessively bright lights. This adds up to \$3.3 billion dollars wasted annually. Installing quality outdoor lighting could cut energy use by 60 to 70 percent, saving billions of dollars.



### Light pollution contributes to the growing climate crisis.

Artificial lighting at night and the energy required to produce it has a large carbon footprint. In the U.S. alone, unnecessary lighting produces 21 million tons of carbon dioxide each year! 875 million trees would need to be planted annually to offset this waste.

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875M It'd take 875 million trees to offset this waste.

## Maximize the efficiency of your home lighting.

- Outdoor lighting should be fully shielded and directed downward where it is needed. Fully shielded fixtures can provide the same level of illumination on the ground as unshielded ones, but with less energy and cost.
- Unnecessary indoor lighting –
  particularly in empty office
  buildings at night should be
  turned off, preventing leakage of
  that light into the night sky.
- LEDs and compact fluorescents (CFLs) can help reduce energy use and protect the environment, but only warm-white bulbs should be used.
- Dimmers, motion sensors, and timers can help to reduce average illumination levels and save even more energy.





Learn more about light pollution and waste.

darksky.org/resources/what-is-light-pollution/effects/energy-climate

## What is light pollution?

Light pollution is the human-made alteration of outdoor light levels from those occurring naturally.

When we over-light, fail to use timers and sensors, or use the wrong color of light, we can negatively affect many parts of our world, including migratory birds, pollinators, sea turtles, and mammals, including humans.



### What can I do about it?

The good news is that light pollution, unlike many other forms of pollution, is reversible, and each one of us can make a difference! Just being aware that light pollution is a problem is not enough — we need to take action.

- Use only fully shielded, DarkSky
  Approved fixtures for all outdoor
  lighting, so lights
  shine down,
  not up.
- Use only the right amount of light needed.

  Too much light is wasteful and harms wildlife.
- Install timers and dimmer switches and turn off lights when not in use. If you must have security lighting, use motion sensors.

- Turn off lights in office buildings and homes when not in use.
- Use only lighting with a color temperature of 3000 K and below to reduce the blue cool light that's more harmful to many animal species.
- Work with your neighbors and local governments to ensure outdoor lighting isn't harming the wildlife in your area.

Learn more at www.DarkSky.org

#### Components of light pollution

- Glare excessive brightness that causes visual discomfort
- Sky glow brightening of the night sky over inhabited areas
- **Light trespass** light falling where it is not intended or needed
- Clutter bright, confusing, and excessive groupings of light sources

#### Harmful effects of light pollution

A growing body of evidence links the brightening night sky directly to measurable negative impacts on:

- Wildlife and ecosystems
- . Human health
- Energy and climate change
- Crime and safety
- Night sky heritage
- Scientific research

#### The problem is growing

Research indicates that light pollution is increasing at a global average rate of **ten percent** per year.

#### YOUR LOCAL CHAPTER



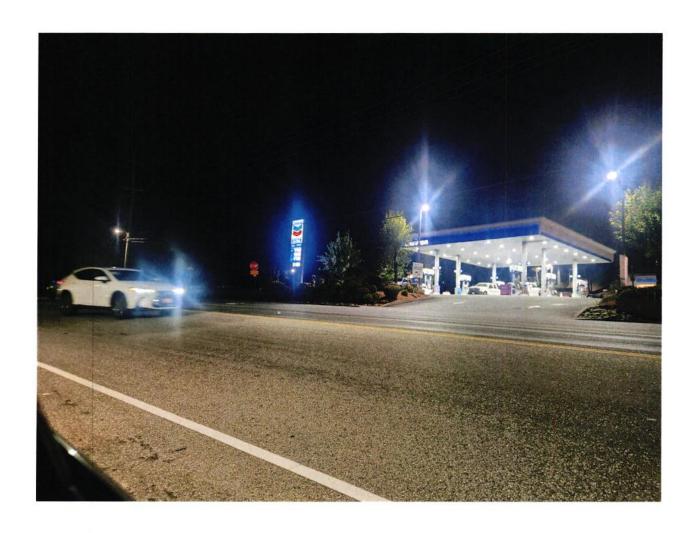
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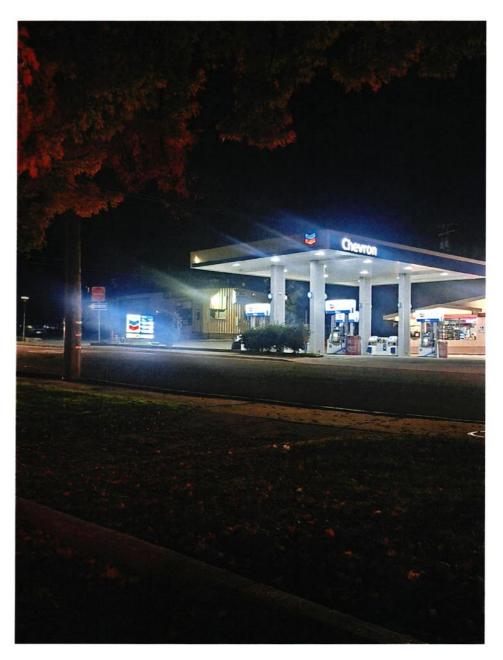
Learn more by signing up for DarkSky e-news



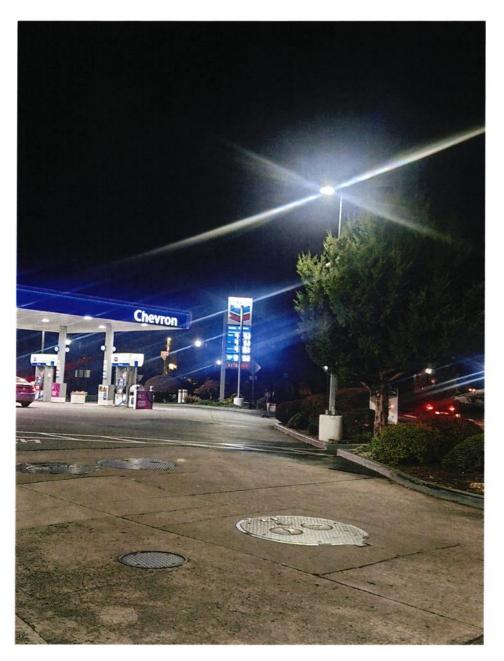




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