January 12, 2026

Re: FDA-2026-P-0028-0001 Citizen Petition from Soft Lights Foundation

I write in support of the Citizen Petition from Soft Lights Foundation to study the usage, safety, standards, limitations, and health effects of LIGHT EMITTING DIODE (LED) technology currently in use.

I especially wish to address the use of LEDs used as a visual alert and those used to illuminate the roadways.

As a visual alert, the effects of intense flashing or strobing overly bright light used in applications such as alarm systems, on emergency vehicles, and on bicycles can make it more difficult for the public to safely navigate the situation, whether it be a fire alarm, a police vehicle, or a cyclist's headlamp. These intense beams of white-blue flashing lights are momentarily blinding, disorienting, and seizure inducing to name a few negative attributes.

In illuminating roadways, the negative impacts of LED uses are numerous, both in the form of stationary lighting (ie: streetlights and building security lights) and in nonstationary applications, especially their current upsurge in automotive vehicles (ie: headlights and turn signal indicators.)

Streetlights, when unshielded, and security lighting illuminate both downward and outward, with a beam spread that shines into bedroom windows, animal habitat, and bounces skyward.

Vehicles now have headlights that make driving in the dark uncomfortable at best and increasingly dangerous for pedestrians, cyclists, and drivers. The automotive industry in the U.S. has historically lacked standardization of headlamp brightness, color rendition, beam angle, or mounting height. This problem is now exacerbated by newer technology and the use of Xenon HID headlamps and clusters of LEDs. This 2019 UK study (https://www.softlights.org/wp-content/uploads/2025/11/PPR2069-Glare-from-road-vehicle-lighting.pdf) shows the current danger of using such technology absent standardization and regulation of intensity (luminance), spectral distribution (blue wavelength light), and beam position, spread and direction.

- Health impacts include migraine headaches, eye-strain, and disrupted sleep.
- Environmental impacts include light pollution from beam-spread and disruption of circadian rhythms of plants and aminals (including humans.)
- Safety impacts include sudden temporary visual impairment, disorientation, and distraction.

Bright lights can cause headaches and eyestrain due to a high concentration of blue light, which has been shown to trigger migraine attacks. Common light-related migraine triggers include LED lights, fluorescent lights, glare, device screens, and car headlights.
https://hms.harvard.edu/news/bright-lights-big-headache

Individuals (both drivers and passengers) experience discomfort from the bright headlights of oncoming traffic or rearview and sideview mirrors. Especially bothersome are the modern blue LED and Xenon headlamps found on some cars.
These findings build on research published by Burstein and colleagues, which reported that migraine headache intensity increases with blue, red, amber and white lights but decreases with a specific wavelength of green light.

On January 8, 2026, Dark Sky International published a position statement on the negative effects of LED lighting on the environment.
https://darksky.org/news/a-driving-source-of-light-pollution-how-car-headlights-are-reshaping-the-nighttime-environment/

It is no coincidence that the number of pedestrian fatalities per capita in the US increased by over 60% since 2023, the latest data set available.

> https://www.oig.dot.gov/library-item/47022 👇
> Office of Inspector General, U.S. Department of Transportation
> December 15, 2025
> **Audit Initiated of NHTSA's Efforts to Address Behaviors and Attitudes Affecting Pedestrian Safety**
> Origin
> *Self-Initiated*
> **Project ID** 26S3001S000

I suspect that the skyrocketing increase in pedestrian deaths at night may be due in part to the Luminance contrast and luminous high-intensity glare produced by LED headlights. NHTSA has not published performance standards for vehicle headlights, resulting in vehicles in the oncoming direction temporarily blinding drivers and increasing the contrast so that the darker roadway in front of them make the driver unable to see pedestrians in the crosswalk.

The petitioner goes into greater detail about the detrimental effects of LED lighting and their underlying causes. Please take this issue seriously, as it can have life and death consequences for the public at large.

Sincerely,
Gina Sonder, concerned citizen
Arlington MA