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November 17, 2025

BY EMAIL

South Brunswick Township Council
South Brunswick, New Jersey
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Re: Request for Investigation – Emergency Vehicle Flashing Lights and Sirens

Dear Honorable Mayor and Members of the South Brunswick Council,

This letter constitutes a formal request that the South Brunswick Township Council, exercising its supreme supervisory and legislative authority, conduct an immediate and independent investigation into the use of high-intensity auxiliary LED flashing lights and sirens by the South Brunswick Police Department.

The core concern is that modern LED warning lights, due to their excessive intensity (luminance), compromise public safety, violate federal motor vehicle standards, and deny the civil rights of residents with light-sensitive disabilities.

Background

On November 17, 2025, the South Brunswick Police Department performed a heroic rescue of a member of the public from a burning car. The video of this incident (<https://youtu.be/1kiMOT-IY8g>) serves as immediate visual evidence of the problem. The intense auxiliary LED flashing lights surrounding the scene create overwhelming glare, impairing the vision of anyone, including first responders, attempting to navigate or assist at the site.

As demonstrated by the extensive research compiled in APPENDIX A, such intense flashing lights actively create an unsafe environment by impeding driver perception and cognitive function, heightening risk precisely when clarity is most needed.

Violation of Federal Motor Vehicle Safety Standards (FMVSS)

The use of these auxiliary vehicle flashing lights appears to be in direct violation of the National Highway Traffic Safety Administration (NHTSA) regulations under the Federal Motor Vehicle Safety Standards (FMVSS) Section 108:

49 C.F.R. § 571.108(S6.2.1): *No additional lamp, reflective device, or other motor vehicle equipment is permitted to be installed that impairs the effectiveness of lighting equipment required by this standard.*

NHTSA clarified its intent regarding such auxiliary lights in its Letter of Interpretation dated December 13, 2024. This interpretation confirms that any non-steady burning auxiliary light that impairs required lighting is illegal:

*"...because the "emergency warning lights" are not steady burning, they would not comply with FMVSS No. 108 and would impair required lighting."*¹

The excessive glare visible in the video confirms that the auxiliary LED flashing lights are impairing the effectiveness of the vehicle's federally required lighting equipment, violating 49 C.F.R. § 571.108(S6.2.1).

Health, Safety, and Civil Rights Impacts

The excessive intensity of LED lights creates a mandated civil rights compliance issue under the Americans with Disabilities Act (ADA), as detailed in APPENDIX B.

- A. Health and Safety Risk:** The neurological danger posed by these lights is scientifically quantified. International guidelines for photosensitive epilepsy and seizures confirm that any change in light intensity (luminance) greater than 20 candela per square meter (20 cd/m²) creates a risk of seizure [APPENDIX A, Oct 4, 2024].

Modern LED auxiliary lights can output 1,500 to 100,000 cd/m². This extreme over-intensity is why individuals with epilepsy, migraines, photophobia, and autism consistently report immediate, severe physical and neurological trauma upon exposure, as documented in the firsthand accounts collected in APPENDIX C.

- B. ADA Compliance:** The Township is required to ensure effective communication and reasonable modifications for individuals with disabilities:

- **28 C.F.R. § 35.160 (Effective Communication):** Requires the public entity to take appropriate steps to ensure that communications with members of the public with disabilities are as effective as communications with others. Flashing lights that induce seizures or cause temporary blindness fail this standard.
- **42 U.S. Code § 12132 (Discrimination):** Prohibits exclusion from or denial of the benefits of public services by reason of disability. The current lighting effectively excludes light-sensitive residents from safely using public roadways.

¹ <https://www.nhtsa.gov/interpretations/ncc-241023-001tsei-tima-letter-interpretation-571108-flashing-amber-lights-12-13>

Formal Request for Independent Investigation

Given the clear conflicts with federal safety standards, the undisputed scientific health risks, and the civil rights implications, the Soft Lights Foundation respectfully requests that the South Brunswick Township Council:

1. **Commission an External Investigation:** Launch an immediate investigation into the legality and safety of auxiliary LED flashing lights and sirens used by all municipal departments. This investigation should be conducted by an independent, external organization with expertise in lighting science, human factors, and ADA compliance, thereby ensuring an unbiased report.
2. **Focus of Investigation:** The investigation must specifically evaluate the impacts of the current lighting equipment on public health, safety, and civil rights, with a focus on compliance with the NHTSA's impairment clause and the 20 cd/m² seizure risk threshold.

We believe that addressing this public health and safety hazard is a necessary and critical step for the Township to fulfill its legislative and regulatory obligations to all its residents.

Sincerely,

/s/ Mark Baker

President

Soft Lights Foundation

mbaker@softlights.org

APPENDIX A – FLASHING LIGHTS

April, 2025 – [Roadside Assistance Vehicle Lighting: Review of Scientific Research and State Regulations](#) – “The most important take-away from prior research is that interventions intended to improve the long-distance visibility of special-purpose vehicles often appear to have adverse effects on the visibility of personnel near the vehicles.”

November, 2024 – [Securing the Perception of Advanced Driving Assistance Systems Against Digital Epileptic Seizures Resulting from Emergency Vehicle Lighting](#) – LED flashing lights interfere with automated driving systems.

October 4, 2024 – [International Guidelines for Photosensitive Epilepsy: Gap Analysis and Recommendations](#) – Limit brightness difference between flashing states to a luminance of 20 cd/m².

February, 2024 – [Good Practices and Current Research in Vehicle Lighting for Roadway Incidents](#) – Researcher John Bullough discusses LED flashing lights starting at 14:05 and ending at 37:50.

October 26, 2022 – [Team-driven Improvement in the Use of Lights and Sirens](#) – Discussion of the dangers of using lights and sirens.

April 22, 2022 – [Can behavioral interventions be too salient? Evidence from traffic safety messages.](#) – Electronic signs are distracting and lead to more crashes.

March 29, 2022 – [Flashing Emergency Lights: Influence of Intensity, Flash Rate and Synchronization on Driver Visibility, Comfort and Confidence](#) – Flashing lights can be too bright and flash too quickly.

February 7, 2022 – [Visually sensitive seizures: An updated review by the Epilepsy Foundation](#) – The abstract states that visually-induced seizures remain significant public health hazards so they warrant ongoing scientific and regulatory efforts and public education and that images with flashes brighter than 20 candelas/m² at 3-60 (particularly 15-20) Hz occupying at least 10 to 25% of the visual field are a risk. This confirms that LED flashing lights will trigger epileptic seizures.

January 27, 2022 – [Video of Dodge Charger Driver Dead](#) – Police vehicles with high-intensity LED flashing lights.

December, 2021 – [Effects of Emergency Vehicle Lighting Characteristics on Driver Perception and Behavior](#) – This study concludes that high intensity flashing lights put lives at risk.

August, 2021 – [Risk of Fire Alarm Strobe Lights](#) – An article by a risk management expert on LED strobe lights used in buildings.

July 1, 2021 – [Altered states phenomena induced by visual flicker light stimulation](#) – Strobing lights can induce altered consciousness.

June 30, 2021 – [Study of Heart Rate and Blood Pressure Subject to Pulsed LED Lighting](#) – The findings indicate that pulsed light will cause a deviation of heart rate and blood pressure from that under stable light. Results showed that after a short lighting period (20 min), heart rate and blood pressure were significantly higher under 40 Hz pulsed than that under stable light.

January 28, 2021 – [How Do Flashing Lights Trigger Epileptic Seizures?](#) – This overview article mentions that contrast is a trigger, as is flash rate.

January 9, 2021– [California Highway Patrol](#) – Video of CHP vehicle on roadway with high luminance LED strobe lights.

June 11, 2019 – [Stroboscopic light effects during electronic dance music festivals and photosensitive epilepsy: a cohort study and case report](#) The connection between strobe lights and seizures.

April 2, 2019 – [Impacts of Flashing Emergency Lights](#) This study concludes that strobing LED lights are dangerous.

February 9, 2019 – [Massachusetts State Police](#) – Compilation video showing high luminance strobe lights on MSP vehicles.

January 12, 2019 – [Is Use of Warning Lights and Sirens Associated With Increased Risk of Ambulance Crashes? A Contemporary Analysis Using National EMS Information System \(NEMSIS\) Data](#) – Ambulance use of lights and sirens is associated with increased risk of ambulance crashes.

January, 2018 – [Police Warning Signals](#) – This article in Police Chief Magazine discusses the dangers of overly intense strobing lights.

May 2, 2017 – [Flashing Lights Induce Prolonged Distortions in Visual Cortical Responses and Visual Perception](#) – A flashing light induces an anomalously delayed response in the primary visual cortex of mice, rats, and humans.

June 5, 2016 – [Why Running Lights and Sirens is Dangerous](#) – Flashing Lights and Sirens may save a few minutes, but does not change the outcome of the event. There is no value to using them, but there is harm.

June 1, 2016 – [National Institutes of Health – Psychological Factors in Exceptional, Extreme and Torturous Environments](#) This scientific research shows that strobing LED lights are instruments of torture.

April 18, 2014 – [Hazardous Effects of Light Stimulation in the Central Nervous System](#) – High-temporal-frequency visual stimuli can yield hazardous responses in the central nervous system.

October, 2010 – [Ambulance Lights](#) – Article on ambulance lights. “Fewer lights, flashing slower & less brightly are more effective.”

2005 – [Photic- and Pattern-induced Seizures: Expert Consensus of the Epilepsy Foundation of America Working Group](#) – A pre-LED study of how flashing lights cause seizures.

August 5, 2001 – [Rear Lighting Configurations for Winter Maintenance Vehicles](#) Strobing lights are less effective than static lights for safety.

March 22, 1971 – [Failure of Visual Estimation of Motion Under Strobe](#) – The author shows how difficult it is to catch a bean bag tossed under strobing lights.

December 27, 1955 – [Siren, Light Removal Makes Police Unhappy](#) – “Removal of the sirens and red lights has materially reduced accidents involving police cars rushing to other smashups or speeding to the scene of a crime.”

APPENDIX B – CIVIL RIGHTS

Americans with Disabilities Act

42 U.S. Code § 12132 – Discrimination - Subject to the provisions of this subchapter, no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity.

§ 35.151(b)(1) - Alterations - Each facility or part of a facility altered by, on behalf of, or for the use of a public entity in a manner that affects or could affect the usability of the facility or part of the facility shall, to the maximum extent feasible, be altered in such manner that the altered portion of the facility is readily accessible to and usable by individuals with disabilities, if the alteration was commenced after January 26, 1992.

28 C.F.R. 35.130(b)(7)(i) – Reasonable Modifications - A public entity shall make reasonable modifications in policies, practices, or procedures when the modifications are necessary to avoid discrimination on the basis of disability, unless the public entity can demonstrate that making the modifications would fundamentally alter the nature of the service, program, or activity.”

28 C.F.R. 35.130(d) – Most Integrated Setting - A public entity shall administer services, programs, and activities in the most integrated setting appropriate to the needs of qualified individuals with disabilities.

28 C.F.R. § 35.160 – Flashing Light Communication - A public entity shall take appropriate steps to ensure that communications with applicants, participants, members of the public, and companions with disabilities are as effective as communications with others.

APPENDIX C – LED FLASHING LIGHT INCIDENT REPORTS

The following incident reports involving vehicle flashing lights have been submitted to the U.S. Food and Drug Administration via the Soft Lights Foundation.

July 6, 2025 – Oviedo, FL – Epilepsy

I have to constantly close my eyes where there might be flashing lights or cause me to avoid certain places which puts me in a down mood because I feel like I can't even leave my house due to fear of having a seizure. It can be depressing since your social life is limited. I remember in the past being in a club and I had a seizure because they turn on their strobe lights. I wish they would just be banned completely since they are not good for the eyes and cause so much harm.

April 16, 2025 – Cincinnati, OH – Other

Today's automobiles, specifically SUVs made by Toyota, Hyundai, Kia, Honda and Acura have headlights that are WAY TOO BRIGHT!! When these vehicles come at you on a dark road, their light spread is literally blinding and especially on a rainy night, this has almost caused me to have a crash several times and always I'll see spots for several minutes after encountering one of these cars. I've noticed vision problems as well as increased frequency of headaches as of late and I have changed nothing in my lifestyle other than having greater exposure to these lights. And we shouldn't forget that the light bars on police vehicles and tow trucks are also retina-searing bright. We can see a flashing incandescent beacon on one of these cars from plenty of distance at night. This needs to be a class action suit against the auto manufacturers or the lamp manufacturers.

March 31, 2025 – Cedar Lake, IN – Migraine

I am only 20 years old but I struggle so much with driving at night or on a cloudy day. Basically every single car (since they all have LEDs) blinds me as they drive past. Just looking at the side of the road doesn't work for me. It is impossible for me to see the road or anything else when there is a car with LEDs. It comes at me from cars driving towards me, through the rear view mirror, and the side windows. Also, the flashing LED lights for ambulances/police cars at intersections make me feel nauseous and like I am going to get a migraine. I have suffered from migraines for many years, so I am light sensitive. However, the LED lights are the worst thing for me during the day and night time.

February 17, 2025 – Yolo County, CA – Autism

I was driving east on Hwy 16 towards Woodland, when I noticed intense amber LED flashing lights close to a mile ahead. I started to slow down. As I reached the LED flashing lights, the intensity and digital pulsing was unbearable. There were multiple vehicles. The panic started to set in. I covered my eyes with my hands and slowed to less than 20mph, basically trapped by the LED lights.

I crept forward in my car, blocking nearly everything from my sight except for a narrow sliver of road near the center line that I could see. Major panic started to set in as I passed the vehicles, which turned out to be about 3 Yolo County Sheriff's vehicles. After I passed, I glanced back in my rear view mirror and was struck by red and blue LED flashing lights. I let out a scream of agony. I suffered significant emotional trauma from this event.

January 12, 2025 – Glenside, PA – Photophobia

I had a recent situation in the movie theater while watching "Wicked" that sent me into a blackout paranoid state; after leaving the theater, the oncoming auto lights/traffic lights/police lights just

exacerbated the situation. I have no memory of the evening. I went to the emergency room in the morning and blood/urine tests showed no drugs or alcohol. I do not have epilepsy and have no medical conditions. I have been using candlelight and red lights at night in my home since 2020 and rarely drive (2018 car with only 17,000 miles). I had a similar event about two years ago after watching a TV series that used flashing strobe lights. I have a PhD and have been looking for research and case studies on the topic of the health consequences of light/flashing lights at night. My goal is to 1) figure out what happened to me, and 2) help others who would just attribute this to being “crazy.” Thank you!

November 25, 2024 – Vacaville, CA – Autism

I was driving East on E. Monte Vista Ave. when I struck by the LED flashing lights on an RRFB. Instead of the RRFB making me stop, I start yelling fuck, fuck, fuck, fuck, fuck, fuck as I tilted my head down and drove straight through to escape the LED assault and save my life.

November 22, 2024 – Springfield, MO – Migraine

After a TBI years ago, I am now a migraine sufferer. I cannot look at the flashing or strobe lights without instant pain. It has been so hard to safely pass by emergency vehicles as flashing and LEDs both blind and cause instant splitting pain. Trying to get by a wreck or incident is really really tough while you are trying go around and not hit people or cars in the road. I have literally stopped my car in the middle of the road at night, even on a curve, multiple times because I was so blind I could not see the road, the other vehicle – nothing! It’s as if someone suddenly blindfolded me while driving. How are people navigating this terrible issue? Tonight was a little darker than usual, without a moon, and I was struggling to repeatedly get blinded/see on a long 2-lane rural road. Going over a curvy set of river bridges with rails was terrifying, leaving me blinded for a moment trying to navigate curves. Halfway through the 7-mile trip, the repeated brightness moved to migraine, nausea, and fear I was going to wreck. I was literally wondering what my future holds if I can’t drive to see my kids, or even get home from work safely after dark because of these lights. It feels like no one cares – even insurance companies. They HAVE to know; they drive too! Even LED Christmas lights are too much when flashing. We also been blinded by directly placed LED garage lights on houses recently. It’s like a direct police spotlight at a T-intersection. I can’t see if anyone is coming to the left, due to one homeowners LED beacon staying trained right in my eyes. Tonight, I also made a right turn at a 4-way stop. Because of being blinded mid-turn, I couldn’t tell how close the car waiting to turn was in front of me as I rounded to the next road. Not only did I fear hitting the other car right in the door I heard a sickening crunch as my back tire fell off the road edge and hit much further than the wheel rim.

November 14, 2024 – Mangonui, New Zealand – Migraine

Swimming in a remote lake, 200m from road access, when a car pulled up flashing the red LED tail lights. I felt immediately nauseated and blacked out with brief loss of consciousness for a few seconds. I came quickly to and swam with difficulty back to the shore having developed blurred vision, pain at the occiput, numb left side of face and left arm (hemiplegic migraine).

October 12, 2024 – Esparto, CA – Autism

I was driving behind a vehicle when it suddenly pulled to the side of the road. Coming towards us was an ambulance with LED flashing lights. I felt like I was electrocuted and was going to go unconscious. I instantly closed my eyes and stopped my car. After a few seconds, a car behind me honked, and when I opened my eyes, the ambulance was already gone. Now I’m suffering the psychological after-effects.

October 11, 2024 – Yolo County, CA – Autism

I was driving East on a County road in the day when a vehicle came towards me with intense, rapidly

flashing amber LED lights. I felt panic rushing in and put my arms up to block the assault. Since I now couldn't see the road, I came to a full stop. Then somebody honked a horn. I moved my arms, and saw that the lead truck had passed, but a wide-load mobile home on a truck was inches from the left side of my car. These LED flashing lights are a menace and violation of our civil rights. My anxiety ran high for 30 minutes after the encounter.

September 16, 2024 – Nashville, TN – Other

I have Mast Cell Activation Syndrome. My body produces an allergic reaction to things that wouldn't normally cause anyone else a problem, including LED lights. My brain interprets the rapid flashing light as if there's something attacking my body, resulting in what we call a "histamine dump." Histamine dumps lower blood pressure. But given I have a condition known as Postural Orthostatic Tachycardia Syndrome, which already gives me low blood pressure, the combination of this condition with MCAS histamine dump causes me to go into hypovolemic shock. It causes the worst pain I've ever known, where my brain is screaming for oxygen and nutrients, fading in and out of being hyperaware of how much pain I'm in only to dissociate from it as a way to protect myself from the mental anguish of that pain. I've almost died from this several times. For almost a decade, I exhibited symptoms of hypovolemic shock at the end of nearly every day, only to be told it was a cervicogenic headache or migraine. Now that I'm diagnosed, I'm on a medication to treat it. But that medication isn't strong enough to counteract the effects of extremely bright LED headlights, let alone LED streetlights. Every time I leave the house at night, I get sick. I'm already disabled my multiple chronic conditions. My life is already limited. I don't know how to live life unable to even go outside at night.

September 14, 2024 – Vacaville, CA – Autism

I was driving at dusk when a fire truck or ambulance suddenly appeared with LED lights flashing. I immediately threw both of my arms in front of my face and hit the brakes to stop the car. I thought that this might be the end of my life. The LED flashing lights are sheer terror and I can't function. After the fire truck/ambulance passed by, I felt like I was going to cry from the emotional trauma. My brain then feels like it's dead even hours later.

August 28, 2024 – Esparto, CA – Autism

I was driving and encountered a utility truck with both sets of headlights turned on. I turned on my non-LED high beams in the hope that the driver would turn off the high beams. Instead, the driver turned on amber LED flashing lights that incapacitated me. I was unable to proceed forward and stopped my car. Instead of driving off, the driver of the utility truck stopped also. My vision and cognitive abilities were severely impaired, with panic setting in. Finally, I started to inch forward, and then so did the utility truck. It seems like the driver was doing it on purpose. After he left, I spent several minutes simply stopped in the middle of the road, trying to breathe and let the panic subside.

August 6, 2024 – Winters, CA – Autism

I was driving on a country road in the daytime. Over 1 mile ahead of me was a utility truck on the side of the road with amber LED flashing lights. For the entire mile, I was either glued to these LED flashing lights, or forcing myself to look away. As I approached the truck, the LED strobe lights were overwhelming and I could not see through the lights. I stopped my car in the road and started to panic. I put my hand in front of my right eye, and then tried to use my left eye to navigate around the truck. It is impossible for me to think or see with these LED flashing lights blasting me and I suffer extreme anxiety and panic.

August 3, 2024 – Onsted, MI – Astigmatism

Led headlights (low beams) , white led running lights, LED brake lights, emergency flashing Led lights and Led streetlights have adversely affected my ability to drive safely. I do not drive at dusk or Night anymore unless I have to (for work). I live in Michigan with snow covered roads and the most dangerous aspect of driving is being blasted by someone's Led headlights. I cannot use my rear view or side mirrors anymore because of the vehicles behind me blinding my visions with their Led headlights. I have to constantly shield my eyes to be able to see the road due to oncoming Led headlights. I love nature and now my ability to enjoy the Night skies is ruined because of bright Led lights on at night. I never had any problems driving at night prior to Led headlights. Now driving has become a nightmare and a very dangerous task. Led headlights should be banned or at least some type of regulation regarding luminance and Kelvin temperature. Many Led low beams are much brighter than halogen highbeams. In addition to the dangers of led headlights being dangerous, they cause me headaches and eye pain. It's common knowledge that blue light is detrimental to the health of humans and don't understand why this type of lighting is being used in the public.

August 3, 2024 – Fountain Hills, AZ – None

Apparently the plan to get drivers off the road is working with the BLINDING LED vehicle headlights. The police LED flashing lights are SUPER BLINDING.

August 3, 2024 – Fort Collins, CO – Other

At 74 and having cataract replaced and it is nearly impossible to drive safely with the blinding blue white glaring LED lights. It is so distracting and frustrating I lose my concentration to drive properly. The lights seem to bounce up and down with a blinding flashing impact. Even police vehicles red and blue flashing on the side of the road are so blinding it is difficult and unsafe to go around them. I can't see what is in front of me. The contrast from dark to blinding flashing lights is too much to see what's in front of me.

August 1, 2024 – London, United Kingdom – Other

Council lawnmower with flashing LED lights drove past me while I was walking along the road. I felt immediate severe head pain, nausea and disoriented, and fell into the roadside ditch. I then vomited, climbed out with blurred vision and pounding head.

July 9, 2024 – Mangonui, New Zealand – Migraine

While traveling in the passenger seat along the state highway felt sudden thunderclap pain to the left occiput passing three flashing LED lights on three diggers repairing the road. My left eye began to stream, my speech became slurred, then dysaesthesia to the left side of my face and arm occurred. I felt as though I had a concussion. The symptoms of this hemiplegic migraine event resolved gradually over a three day period.

June 1, 2024 – Fairfield, CA – Autism

During the day, I was driving a vehicle on a freeway when I struck by an LED flashing light from a bicycle on a parallel road. I reactively closed my eyes and then suffered a seizure reaction, which I would describe as like an electrical shock and loss of cognitive functioning and vision. I then had to emotionally fight off a panic attack.

4/21/2024 – Beaverton, OR – Autism

LED flashing lights cause me to suffer severe anxiety, panic attacks, and fear.