



March 30, 2023

Joint Committee on Transportation
March 30, 2023 Hearing

RE: Testimony in support of HB 3202

My name is Dawn Nilson and I've lived in Oregon for over 27 years. As a professional natural resources manager with over 30 years of experience and as an amateur astronomer, I've been advocating to control light pollution in Oregon since learning of it in 2009. I've served on the board of Rose City Astronomers (RCA) as its Dark Sky Preservation Director for 13 years. RCA is a local, non-profit organization of over 800 member families. I am also an official delegate of the International Dark Sky Association and cofounded the Oregon Chapter of that association in 2019 and served as its first chair. I fervently support the passage of HB 3202, with minor revisions.

Though we've had a statewide outdoor lighting code for over 10 years, in all my work throughout the state, I've not met a single state, county, or municipal official who has known of it. By addressing responsible outdoor lighting in various sections of Oregon statutes, HB 3202 will make lighting policy less overlooked. By addressing all public lights and not just those on buildings, the bill addresses one of the largest sources of light pollution – streetlights. While the bill could be improved by including specific exemptions and by addressing temporal practices like lighting curfews, dimmers, and motion detectors - - practices that have been addressed by other states and local governments – HB 3202 is a step in the right direction to address the immediate need to curb light pollution.

Rather than addressing the particular merits of reducing light pollution, which are many and are supported by an enormous body of data, I'd like to focus my remarks on preserving the state's abundant rural character. Without HB 3202, Oregon is in jeopardy of losing its valued rural character, which includes a natural night sky.

Rural skies are threatened from within and from larger surrounding communities. Anecdotally, I've seen small communities such as Burns, Lakeview, and Madras unknowingly retrofit their warm, amber downtown streetlights to what I call "mock" historic lighting. The new luminaires with high levels of blue light have no shielding and are overly bright in a dark sky setting. Actual historic lights were capped at the top to contain the warm, amber gaslight. The cap provided partial shielding and the cap and warm light created less light pollution. There is absolutely nothing "historic" about the new fixtures that are in these small communities, downtown Portland, the new Center for the Arts in Beaverton, and popping up elsewhere in the state. Historic-looking, dark sky friendly lights are available, but without policies such as HB 3202, governments will continue choosing lights suggested by vendors instead of equally appealing lights more protective of the night. The mock historic lighting is just one example. I've also seen new shielded lights installed at rural locations throughout the state that sadly use mercury vapor bulbs rich in blue light. Small rural schools are beginning to install unshielded, overly bright and blue-rich LED lights on their premises. Without a more comprehensive bill such as HB 3202, this adverse trend of unwittingly shifting to lights that produce more light pollution rather than less will continue. Since newer lights can last 25 years, action must be taken now.

This unfortunate trend has been observed through research. A recent study published in the journal *Science* found that the average night sky got brighter by 9.6% per year from 2011 to 2022, which is equivalent to doubling the sky brightness every 8 years.

I am presently working on a grass-roots effort to nominate a three-county-wide area in Southeastern Oregon as the Oregon Outback International Dark Sky Sanctuary. When certified, it would be the world's

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largest International Dark Sky Place and hopefully rally all Oregonians and neighboring states to protect our night sky heritage. The most egregious lights in the proposed sanctuary belong to the state. While this will be rectified over the next few years, it speaks to the opportunity for the State to be a role model of responsible outdoor lighting. That modeling begins with HB 3202. Many other states have taken such steps already.

I mentioned the need for a minor revision in the bill. In Section 2, part c, I suggest changing the language from “*Have a color temperature of 3000 Kelvin or lower*” to “Have a correlated color temperature of no more than 3,000 Kelvin.” While the two phrases may sound similar, I’ve found that the word order in a performance measure makes an important difference. From an astronomical and ecological perspective, the goal is to encourage lighting with the least amount of blue light and this goal is more pronounced if the limit is at the end of the sentence. This revision is particularly important when considering outdoor lights in rural areas, particularly streetlights awaiting retrofits. Such lights have long been at a correlated color temperature of about 2200 Kelvin. If communities choose LED bulbs at 3000K, which is the latest norm based on a misunderstanding of the performance measure, they will be introducing more blue light into rural landscapes with a dark sky legacy.

Every generation deserves the right to look up and experience the beauty of an Oregon night sky and to enjoy the species richness that our state has today. If we don’t act now, that right will soon be gone.

Respectfully submitted,



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International Dark-Sky Association Delegate

Cc: Jim Todd, RCA President