

## Adam Zack

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**From:** Sarah Fletcher <fletchsa1@gmail.com>  
**Sent:** Sunday, January 23, 2022 10:10 PM  
**To:** Carolyn Boatsman; Planning Commission  
**Subject:** Planning Commission Meeting - Noise and Lighting ZTR21-005

Hello I have worked on the loud freeway noise and bright lighting from Sound Transit and WSDOT's projects of which I am going to give you some of the information. Basically, the City needs to bring in acceptable dBA levels so that should Sound Transit's light rail operations be louder than what the City has set, then they will have to get the noise within acceptable levels. And when it comes to the lighting, just so you know, the kind of lighting which Sound Transit used in the Park and Ride and what other people have installed, they don't make shields for them and the light bulbs are part of the whole light fixture, so it is not like they can just remove the bulbs.

if you are going to discuss the noise from leaf blowers, then you are going to have to discuss WSDOT's loud freeway noise. and potential noise from light rail operation. And you need to bring in "noise and sound" and not refer to noise as just "sound" in that as an example, the FHWA has the following:

The FHWA state that **noise** has the potential to annoy or disturb humans, or cause an adverse psychological or physiological effect on humans. And the FHWA state that "**5 dBA change is required before most people realize there is a perceptible sound difference.**"

And just so you know, "Sound and noise are not the same thing, but sound becomes noise when:

- It is too loud
- It is unexpected
- It is uncontrollable
- It occurs unexpectedly
- It has *pure tone components*

Noise is any sound that has the potential to annoy or disturb humans, or cause an adverse psychological or physiological effect on humans. "

And just so you know, Sound Transit and WSDOT refer to people impacted at the transit stations as "transitory," and neighbors who live in the neighborhood are considered "impacted." So, what would people who are bothered by the noise of the leaf blowers be referred to?:

"People at light rail stations are **transitory** and **not considered impacted** under WSDOT and ST criteria and workers who may be more stationary are evaluated according to NIOSH which has yet another set of criteria to assess noise impacts. Only if people were stationary and exposed to noise levels at or above 85 dBA for 8 hours or more continuously could they be impacted according to NIOSH criteria. "

Something has to be done about it, but the noise ordinance you are proposing is not taking into consideration the current loud freeway noise, not to mention that the announcements at the station themselves when trains are arriving might be really loud, and if it is, how will the Code protect Mercer Islanders and make Sound Transit do something to bring the noise under acceptable levels? See the Noise Map which actually shows the noise along the I-90 is louder than the brand new 520 bridge for which over 200 Medina residents signed a petition.

And re the lighting, the heading is "Residential Lighting", but it needs to be **ALL** lighting. It is not just residential lighting, but also Sound Transit's bright lighting in the Park and Ride shining onto MI residents' homes. and the JCC's bright lights and where I live, the bright lights shine right into people's bedrooms. And what about the current lighting which is too bright? Is the proposed code just going to apply to new lighting?

"19.14 Promote awareness and implementation of the International Dark-Sky Association's methods to reduce the excess lighting of the night sky that negatively affects wildlife, particularly birds [and humans]. Consider seeking certification as an International Dark-Sky Community."

And there is other draft language:

"H. Lighting. In addition to MICC 19.12.070(A), the following standards shall apply (the standards of 19.12.070(B) shall not apply):

1. All outdoor lighting shall be designed, installed, located, operated and maintained such that there is no light spillover onto adjacent properties"

And Evan told me the following:

"The policy language under consideration would not affect the recent lighting installation by Sound Transit at the park and ride. It would provide a policy basis for further legislative action to adopt lighting standards for future installations." Just so you know, there are 20 bulbs in each light fixture. And the City does not have a lighting permit from what I could gather, just an electricity permit. You might want to check with them as to whether they do have lighting permits. And could you add language that Sound Transit's lighting should have dimmer features, as well as be motion-sensored so that should someone complain about the bright lighting, they could do something. They could not install a shield over the lighting that they installed in the Park and Ride. It was looked into. It was the completely wrong lighting for a Park and Ride and the City should never have approved it.

This is from the American Medical Association and they have **concerns with the lighting**.

<http://theconversation.com/american-medical-association-warns-of-health-and-safety-problems-from-white-led-streetlights-61191>

This is what it says: "A white LED at CT 4000K or 5000K contains a high level of short-wavelength blue light; this has been the choice for a number of cities that have recently retrofitted their street lighting such as [Seattle](#) and [New York](#)."

**But in the wake of these installations have been complaints about the harshness of these lights.** An extreme example is the city of Davis, California, where the residents demanded a [complete replacement](#) of these high color temperature LED street lights."

"Municipalities are replacing existing streetlights with efficient and long-lasting LEDs **to save money on energy and maintenance**. Although the streetlights are delivering these benefits, **the AMA's stance reflects how important proper design of new technologies is and the close connection between light and human health**."

And the National Geographic now has something on how white LED lighting is detrimental to the environment. And just because a law comes in after the bright white LED lights have been installed, should it become known that they cause cancer, shouldn't the white LED lights be removed?

<https://news.nationalgeographic.com/2017/11/light-pollution-energy-LED-bulbs-spd/>

"As people across the globe are [switching to LED lights](#) in an effort to save energy and money, they may be making another problem worse. [Light pollution](#) has been a growing problem for decades, and the recent introduction of LED (light emitting diode) bulbs has increased the amount of light coming from cities by a considerable amount."

And here are WSDOT's Guidelines:

This is some useful information below which I thought would be useful.

## "CONCEPTS

Public signing, street furniture and lighting elements should reinforce and clarify the predominantly natural, informal, residential character of the Island instead of dominating or detracting from it. Appropriate street furnishings can do much to make the Island environment more legible, expressive, pleasant and engaging as well as establish a "sense of place" about the Island as a whole or a particular area within it. Public signing can more effectively and uniformly reveal the function, form and activities

of the Island and clarify its overall environment. **“Out-of-control” signing, lighting and furnishings – ones that are in conflict with the surroundings – obscure the meaning of the environment as often as they clarify it.**

*GOAL:*

Provide safety for vehicular traffic and pedestrians.

*INTENT:*

Provide the amount and quality of light as recommended by recognized standards while satisfying the other goals included here. Within the Business District an average of 1.2 f.c. may be used, which is the IES Handbook recommendation for “major” roadways in business districts not classified as downtowns. An average rating is not significant. The minimum level and contrast between minimum and maximum as perceived over time is more important, particularly along the rural right-of-ways. Incident light along commercial streets is a significant contributor to the amount of light perceived by the driver or pedestrian and should be considered as part of the overall light level.

*CRITERIA:*

- a. Light Levels: The minimum light level provided by street lights within the Business District at a point furthest away from the light source should not be less than .2 f.c. and the maximum should not exceed about 5 f.c., the average level of light should be approximately 1.2 f.c. to 2 f.c. including a maintenance factor of 60 percent.
- b. Increase lighting levels at intersections, cross-walks and driveways to 2 times minimum, that of the remainder of the street or about 4 f.c. average at intersections within the Business District. Light should be uniform at intersections and of a contrasting color to mid-block areas.

*GOAL:*

Enhance the directional quality of the street.

*INTENT:*

1. Give character and scale to the street and emphasize the street corridor’s directional quality through lighting pattern, scale of the light standards, and increased light levels at points of increased decision making for the driver.
2. Reduce area wide lighting and restrict it to the corridor.
3. Focus on the enhancement of the landscape and reinforce one’s perception of the streetscape as a continuum of related elements building a total image.

*CRITERIA:*

- 1a. Emphasize the street as a corridor by focusing the lighting totally on the street and pedestrian ways. **Minimize spilling-over light onto adjacent properties**, except at driveways.
- 1b. At intersections and along major pedestrian routes in the Business District add pedestrian lighting integrated with the street lighting system. Light fixtures should be at a comfortable height to the pedestrian, approximately 10-15 feet high.

1c. Emphasize the lighting at intersections by changing the color of the light to warmer tones either by changing the type of lamp or the color of the lens.

2. Lighting standards should be not more than 20-24 feet high between intersections and 28-33 feet high at intersections in the Business District and along urban right-of-ways. Rural right-of-way standards should not exceed 16 feet; suburban right-of-ways should not exceed 22 feet. The lighting fixtures and standards are elements of a continuum of parts constituting the streetscape including trees, signs, roadway, automobile and people, which together form a spatial territory. Subjectively, not measurably, if the lights are raised above their critical heights they go beyond the bounds of the territory, break the tension formed between parts, and dis-associate themselves from the other elements. The road user at this point no longer perceives the lights as a cooperative part of the total streetscape.

3a. Placement of lights should complement street tree spacing.

3b. Light underneath portions of the trees with approximately 10 percent up-light of the street lighting system. (This portion may be increased as the trees mature)."

Sarah Fletcher