Amelia Brackett Hogstad

From: Amelia Brackett Hogstad
Sent: Wednesday, August 9, 2023 9:43 AM
To: Amelia Brackett Hogstad
Cc: Rob Zuccaro; Jeff Hirt; April Kroner
Subject: RE: information request
Attachments: Residential_Survey_Detailed_Report_(all_time)_Redacted.pdf; Commercial_Outdoor_Lighting_Survey_Detailed_Redacted.pdf; Residential_Survey_Summary_Report.pdf; Commercial_Outdoor_Lighting_Survey_Summary.pdf; 2021 09 21 Dark Sky DD CC.docx

Good morning, all,

Tamar asked a few questions about the dark sky item that was continued to tomorrow night's meeting. Please see staff responses below.

Note that this email is going out to all commissioners. I will also add to the packet so members of the public can view.

Thank you,
Amelia

Amelia Brackett Hogstad, PhD
Historic Preservation Planner
Planning Department
Schedule a meeting
303.335.4594 (office)
720.665.0662 (cell)

From: tamar krantz <tamarkrantz@gmail.com>
Sent: Thursday, August 3, 2023 3:18 PM
To: Amelia Brackett Hogstad <abrackett@louisvilleco.gov>
Cc: Rob Zuccaro <rzuccaro@louisvilleco.gov>
Subject: information request

Hi Amelia,

Here are a couple things that would be helpful to me if you have time. I'm hoping at least a few of these will be simple. I know this is last minute and you probably are just about finished with the packet.

I totally get that you are understaffed and stretched thin. I can just use this list for myself to remember what my questions are.

Thanks,
Tamar

(1) You mentioned that City Council originally provided direction to staff on July 20, 2021. Would it be OK to provide that link, as well as a link to any other city council meetings on Dark Skies so that planning commissioners can better understand the direction?

Here is the video and packet link for July 20, linked to the start time for the dark sky item.

(2)The summary of community engagement includes a link to the actual data and some background information. Would it be possible for us to see the complete report and not just the summary?
Attached are the documents that are available in that link from the July staff packet.

(3)Is there any more recent survey or summary or public engagement from EVC, chamber of commerce, etc?
The most recent surveys concluded earlier this year, which is what the summary shows and the attached documents. The chamber of commerce survey was also from this year. Staff presented to EVC and LSAB this year, as well, presenting similar information to what you all have access to. Here are the minutes for staff's presentation to LSAB. EVC minutes for the item are here starting on page 5 of the PDF.

(4) Can you include any more cost information and include any information on rebates that might be available.
I can summarize the information we have at the hearing tomorrow.

(5) One of the letters from Charles Dansforth mentioned that the ranger had knowledge of which lights were most egregious. He listed them in his e-mail.
Would it be possible to get the ranger to verify this data
Planning and Open Space staff have worked on this project together. Through that process, we have had many conversations about what data is and is not available for Louisville. In this case, the only kind of data available is to say what areas of the City are lighter and darker, not which specific lights or properties (point-source emission) are contributing because the meters are not capable of creating that kind of measurement.

(6) Also, Josh Cooperman's e-mail recommends 2700 Kelvin instead of 3000 Kelvin because that is now readily available and is the International Dark Sky recommendation. Do you have any information to support or refute what Josh says about this.
Staff's research in 2021 concluded that a higher Kelvin (3000 K max) allowed more flexibility, options, and price points for dark sky lighting. I do not know if IDA has updated their recommendation to 2700 K max, though their recent publications for 2023 International Dark Sky Week in April still name 3000 K max; I do know that the American Medical Association recommends lower K overall but still states 3000 K as the upper limit, at least as far as I could find. There are some statements that suggest lighting at lower K is no longer cost-prohibitive, but we do not currently have more information to assess whether that is the case. In addition, most cost estimates for retrofitting lighting that we can find use the 3000 K max benchmark, so further evaluation of the cost impact of lowering the Kelvin would likely be limited.

(7) Do you have any data on how we are doing with % compliance?

Staff conducted a small compliance survey, which we presented to Council, in 2021. I have attached the packet.

City of Louisville
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CITY COUNCIL COMMUNICATION
AGENDA ITEM ___

SUBJECT: **DISCUSSION/DIRECTION – DARK SKY AMORTIZATION POLICY**

DATE: **SEPTEMBER 21, 2021**

PRESENTED BY: **LISA RITCHIE, AICP, INTERIM DIRECTOR OF PLANNING & BUILDING SAFETY**

SUMMARY:
The 2021 City Council work plan includes consideration of a policy resulting in Dark Sky compliant lighting. City Council provided direction to staff on July 20, 2021 to develop an ordinance to adopt updated citywide standards to meet dark sky best practices.

A Dark Sky policy would aim to mitigate light pollution by addressing the design of outdoor lighting. The purpose of such a policy would be to:

- Minimize adverse offsite impacts of lighting, such as light trespass and glare
- Protect the natural environment and wildlife from the adverse effects of night lighting
- Conserve energy and resources
- Reduce light pollution, and improve the nighttime environment for astronomy

General topics addressed in a Dark Sky policy typically include:

- Quantity, spacing and location/placement of lighting devices
- Design of light devices themselves (light color/type, even light spread, direction/shielding of light, dimmers/timers, etc.)

Staff seeks additional discussion and direction regarding inclusion of a requirement that existing properties come into compliance over time with new standards, commonly referred to as an amortization policy.

BACKGROUND:
Changes to use or design regulations can render some existing properties non-compliant with new standards. Cities commonly treat these non-compliant properties in one of two ways: regulations for non-conforming structures and uses and regulations creating amortization periods. A general non-conforming code section describes the triggers for when the properties need to come into compliance with the code. Chapter 17.36 of the Louisville Municipal Code (LMC) generally allows non-conforming properties to be maintained in good repair, but not expanded or altered unless conformance is achieved.

An amortization code for certain uses or design standards gives property owners a timeframe in which conformance is required, regardless of whether they are expanded or altered. The timeframe should be established with the property owner's associated

investment required to achieve conformance in mind. Generally, the higher the value, the longer the amortization period should be. Specific to lighting standard design amendments, setting an amortization period for conformance is permissible in accordance with legal standards regarding expected depreciation of property over time. Unlike the city's current non-conforming code, which is trigger-based, the amortization option could be administered as a proactive program or as non-conforming properties are identified.

KEY ISSUES:

This section provides City Council with additional information to consider when determining whether an amortization policy is appropriate for Louisville given financial resources and staff limitations. The new code is intended to apply citywide for both residential and commercial properties. Considerations include cost to property owners; staff time to advertise, administer, and enforce the program; and ability to achieve conformance in the long term.

Single-Family Residential Property:

In order to determine the magnitude of the light fixtures on single family properties in Louisville that are not in compliance with the intended standards, staff conducted visual surveys in four different neighborhoods throughout the city of the front elevation of homes.

Table 1: Single-Family property visual survey

Neighborhood	# of Properties Surveyed	Dark Sky Fixtures	Non-Compliant Fixtures
The Meadows at Coal Creek	29	20	80
Sundance	26	13	24
Louisville North	23	8	35
Old Town	23	11	58
Total	**101**	**61**	**207**

Within Louisville, there are roughly 6,550 single-family residential structures, per the Boulder County Assessor. Based on the results above, there is an average of 2.65 light fixtures per property. In addition to this quantity, staff assumes there is one additional light fixture on the rear or side of the home, for a total average of 3.65 light fixtures per property. Based on the survey above, roughly 22% of residential fixtures comply with dark sky standards. If these assumptions are extrapolated citywide, there are roughly 23,907 residential light fixtures, with 5,259 meeting dark sky standards, leaving 18,647 out of compliance, or 5,109 properties.

Using the averages above, staff assumes a cost per household of $292 ($80 per fixture x 3.65 fixtures per property) for fixtures and another $292 for labor to install new light fixtures, for a total investment of $584.

In order to support or incentivize conversion of residential light fixtures, the city could offer financial reimbursement to homeowners, particularly to low-income residents. Based on 2019 American Community Survey data, roughly 5.9% of households are below the poverty threshold. This number is higher if you include a 60%-80% AMI standard. If the city were to fund conversion for poverty households, the cost based on the assumptions above would be roughly $225,000 in 2021 dollars.

Additionally, the city could provide a financial incentive to all households to support conversion. Assuming a $50 incentive per household, the total cost would be roughly $250,000 in 2021 dollars.

These financial incentives would help mitigate the cost to residential property owners to come into compliance and help support the amortization timeline.

Multi-Family and Commercial Property:
According to the Boulder County Assessor, there are roughly 1,260 multi-family and commercial properties in the city. Staff did not attempt to estimate compliance with dark sky standards on these properties as the variability and complexity for compliance is greater. Determination of dark sky compliance for commercial and multi-family property is challenging given 1) the new standards for illumination and light spread levels are not yet developed and 2) evaluation of these properties is more complex and cannot easily occur from a visual survey.

Evaluation of compliance on existing multi-family and commercial properties requires a technical evaluation of existing light fixtures from a professional lighting engineer. If the lights were found to not be in compliance, replacement costs could range from tens of thousands of dollars or higher for larger properties. Factors for cost include property size, architectural design and number of parking lot or private drive light fixtures.

The main considerations for multi-family and commercial are the higher costs for compliance, the more complex lighting systems, and the need for additional expertise in evaluating proposed and existing lighting.

Amortization Timeframes:
As mentioned above, amortization periods should reflect consideration of property owner investment. Single-family residential properties have a relatively low level of investment to achieve conformance. If the city funds and incentivizes replacement of fixtures, this can help support a rationale for a reduced timeframe for amortization. A five-year period that includes incentives for all households and funding for low-income families appears to be reasonable considering investment requirements for compliance.

For commercial and multi-family properties, a longer amortization period is appropriate given the cost for compliance. A ten- or fifteen-year period appears to be more in line with the legal basis for amortization.

City of Boulder Amortization Experience:
For comparison, the City of Boulder adopted a fifteen-year amortization requirement for residential and commercial compliance with their lighting code in 2003, which expired in 2018. Staff reached out to Boulder staff to understand how they implemented and administered the amortization requirement. Louisville staff was particularly interested in understanding how initial and final compliance was determined, and what enforcement and/or incentives were utilized to gain compliance.

Boulder set the fifteen-year period for all properties based on the value associated with large-scale commercial property compliance. Prior to adoption of the code in 2003, extensive outreach to property owners was undertaken to inform them of the pending change. Following adoption, outreach and communication of the requirements did not occur on a regular basis. Compliance occurred through review of property development and redevelopment, and when the City of Boulder became aware of properties that did not comply with standards through complaints or other means. Generally, Boulder staff did not track compliance and could not estimate compliance rates before or after the amortization period expired.

City of Louisville Resources:
It is reasonable to assume the city can provide outreach to properties prior to adoption of a new standard to inform them of the pending change and the requirements to gain compliance. Given current staff levels, it is not reasonable to assume that staff could monitor and oversee a proactive enforcement program during an amortization period. Staff notes the following challenges with enforcement:

- Currently, replacing light fixtures on single-family residential properties does not require a building permit. A new permit review process specific to lighting fixtures would need to be developed, executed, and communicated to homeowners. These changes would be especially difficult to capture given that homeowners tend to buy lighting fixtures and install them without thinking to inquire about permits, similar to the current situation with prefabricated sheds on residential properties.

- Determining compliance with dark sky standards for existing multi-family and commercial properties requires evaluation from a lighting engineer and may or may not require upgrades to light fixtures. Staff does not currently have the resources to determine the eligibility of compliant fixtures across the market on an on-going basis, or to communicate,

monitor and enforce a requirement that a property owner undergo this evaluation proactively to determine compliance.

- Any incentive directed at low-income residents would require the evaluation of a household's financial status. Staff does not have any means to review or verify household financial eligibility for a means-based incentive.

- Any fixture replacement for multi-family and commercial properties typically requires a building permit to confirm compliance with existing standards. This would result in an increase in permit volume that, depending on the amortization timeframe, may or may not be able to be absorbed with current staffing levels. For example, following the 2018 hail storm, the building department had to hire temporary staff to process permits that covered the majority of Louisville residential structures.

- Assuming that all properties do not come into voluntary compliance, staff does not currently have the resources to provide proactive enforcement of compliance.

Given the above concerns, staff does not recommend adoption of an amortization policy if the assumption is that staff will proactively monitor and enforce compliance. The following voluntary- or trigger-based options could be considered in place of this expectation:

- Regulation through the existing non-conforming code. This would require property owners to come into conformance through new development or redevelopment over time.
- Regulation through adoption of an amortization requirement without enforcement. Similar to the City of Boulder, the city could adopt a requirement for conformance over time, but not proactively gain compliance. Staff does not recommend this approach. If the intention is to not enforce a code requirement, that can lead to misalignment with community expectations and legal concerns.

DISCUSSION:
Staff asks that Council discuss the following questions:

1. Is City Council still interested in adoption of an amortization requirement, and if so, what is the expectation of support?
    i. Funding/incentivizing replacements?
    ii. Additional staff and other resources to monitor compliance?
    iii. Amortization requirement without proactive staff oversight?

2. In place of amortization requirements, should the city prioritize education and incentives to improve this issue?
3. What other research and information would be help Council consider the impacts of a Dark Sky amortization policy?

FISCAL IMPACT:
Depending on the direction above, staff will present fiscal impacts of any new regulations along with the draft ordinance.

PROGRAM/SUB-PROGRAM IMPACT:
A Dark Sky policy would affect the City's Programs/Sub-Programs in the following ways:

- *Community Design* – Exterior lighting regulations could enhance community aesthetics, by encouraging well-designed lighting that minimizes light-pollution.
- *Administration & Support Services; Sustainability* – The use of well-designed and more energy-efficient lighting could help realize cost savings and reduce environmental impacts.
- *Transportation; Streetscapes* – Efficient use of adequately bright and appropriately aimed lighting furthers the City's objectives of creating safe, visually appealing, appropriately lit and inviting streets, sidewalks and publicly owned areas.

RECOMMENDATION:
Further discussion on pursuing a Dark Sky amortization policy in the City.

ATTACHMENT:

1. City Council Dark Sky packet, July 20, 2021
2. Presentation

STRATEGIC PLAN IMPACT:

☒	**Financial Stewardship & Asset Management**	☐	**Reliable Core Services**
☐	**Vibrant Economic Climate**	☒	**Quality Programs & Amenities**
☐	**Engaged Community**	☐	**Healthy Workforce**
☒	**Supportive Technology**	☐	**Collaborative Regional Partner**