



County of Fairfax, Virginia

MEMORANDUM

DATE: November 13, 2023

TO: Planning Commission

FROM: Casey Judge *Casey V. Judge*
Deputy Zoning Administrator

SUBJECT: Signs Part II Zoning Ordinance Amendment – Responses to Questions

The Planning Commission held its first public hearing on the Signs Part II Zoning Ordinance amendment on October 25, 2023. There was both written and in-person testimony provided at the public hearing. The Planning Commission deferred action on the amendment and requested staff provide written responses to the questions and comments provided by the community before the second public hearing scheduled for November 15, 2023. A summary of the general comments and questions received along with staff responses are provided below.

Electronic Display Sign Brightness

- 1. What is a nit and how is it measured?** As discussed in the [staff report](#), a nit measures illuminative brightness of an object and equals one candela per square meter. County staff uses a specific light meter to measure the nit levels of electronic display signs. The sign nit level reading is taken approximately three feet away from the sign (if possible), and multiple measurements are taken. The highest measurement is selected as the maximum nit level of the display area.
- 2. What are the current limitations on electronic display?** The current regulations allow one electronic display sign per lot, and the electronic display area is limited to 50 percent of the maximum freestanding sign area permitted for that lot. While the maximum sign sizes differ based on zoning district and use, they can range from 40 square feet for nonresidential uses in residential districts to up to 80 square feet for nonresidential uses in commercial and industrial districts. Electronic display signs may not move or change more frequently than once every eight seconds, and the movement must be instantaneous without rolling, fading, or otherwise giving the illusion of movement, nor flash or vary in brightness. The background may not be white, off-white, gray, or yellow, and the sign must include a photocell that automatically dims the sign at sunset to no more than 40 – 100 nits.
- 3. Why has staff recommended an increase to nit levels?** As part of the initial outreach meetings with the community, land use attorneys' groups, builder and industry groups, shopping center owners, and other interested parties, staff asked for feedback on which topics to review as part of the Signs Part II amendment. Comments received noted that the 100-nit maximum brightness level was not realistic based on existing sign brightness levels



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and advances in emerging technology, such as widespread use of LED displays which are brighter.

Before making its recommendation, staff also researched other jurisdictions with electronic display sign nit maximums and found the following nit levels by jurisdiction:

Jurisdiction	Nighttime Nit Limitation
Arlington, VA	50 - 500 nits*
Prince George's County, MD	150 nits
Charlotte, NC	500 nits
Philadelphia, PA	150 - 250 nits*
Ann Arbor, MI	100 nits
Glenville, NY	500 nits

**Nit level varies based on zoning district*

Table 1: Maximum Nighttime Nit Limitations by Jurisdiction

Staff also reviewed four comprehensive sign plans approved by the Planning Commission that included electronic display signs:

- CSP-2016-HM-035 and CSPA-2009-HM-019-03 (Comstock Reston Station): allows four electronic display signs and one media display sign with a nighttime brightness of up to 680 nits.
- CSP 86-C-119-02 (Boston Properties): allows one “jewel box” electronic display sign with a nighttime brightness of up to 1,500 nits.
- CSPA 2010-PR-021-02 (Capital One): No maximum nit level was imposed for two video screens, which are permitted up to 1,075 square feet and 1,650 square feet in size.
- CSPA 2005-PR-041-03 (Mosaic): while this approval took place in 2018 and predated a maximum nit limitation, the approval allowed a 1,500 square foot video display sign. The sign brightness measures approximately 1,600 nits.

To assess existing electronic display signs currently approved in the County, staff identified over 20 electronic display signs in different magisterial districts and took nit readings after sunset. Five signs were in conformance with the 100-nit limitation, and 12 signs exceeded 400 nits with eight of these signs exceeding 500 nits.

While many existing signs exceed the maximum nit level, staff found that the higher nit levels observed in the field were not causing adverse impacts to adjacent properties, and there were few complaints filed with the Department of Code Compliance (DCC). Therefore, staff believed an increase in brightness levels above the current 100-nit limitation for properties in Planned, Commercial, and Industrial districts would not have an adverse impact. The proposed amendment includes an option to consider making no change to the current nighttime nit level or to consider any other number up to 1,000 nits.

4. What are the industry standards and studies that were reviewed as part of the amendment? Staff is aware of a variety of recommendations on maximum nit levels at night, including the following:

- The United States Sign Council Foundation recommends 750 nits at night
- The International Sign Association recommends 0.3 footcandles (or approximately 323 nits) at night
- The Illuminating Engineering Society of North America recommends 250 nits
- The Outdoor Advertising Association of America recommends 350 nits
- The International Dark-Sky Association recommends from 0 to 160 nits depending on the overlay lighting zone
- The 2010 report “Digital LED Billboard Luminance Recommendations – How Bright is Bright Enough?” by Christian B. Luginbuhl et.al is often cited and recommends 100 nits

Regarding traffic safety and general glare, staff reviewed the executive summary on [“Digital Signage and Traffic Safety: A Statistical Analysis.”](#) This is a peer-reviewed analysis about the traffic safety impacts of digital signage, authored by Dr. Gene Hawkins, current chairperson of the National Committee on Uniform Traffic Control Devices. The study found that there is no statistically significant increase in crash frequency after installing an on-premise digital sign.

Additional research from the United States Sign Council Foundation’s [Model On-Premise Sign Code](#) also found no correlation between electronic display signs and traffic accidents and states that these signs have not been found to be a distraction having impact on the driving task or to cause unsafe driving behaviors that causes an accident in driver distraction studies. They also note that research has shown that on-premise signs are not a factor in creating light trespass or light spillage conditions and indicate that on-premise signs can be detected from a distance because they have proper sign brightness or luminance at night, and not because they project a great deal of unnecessary lighting to surrounding areas.

5. What is the impact on wildlife and personal health from an increase in nits?

Staff is not aware of any studies that speak to the impact of electronic display signs, as opposed to lighting in general, on wildlife or personal health (including loss of night vision). Staff recognizes the concerns raised and advertised a wide range of options for consideration, which may include retaining the current 100-nit limitation for all signs or additional limitations on signs within a certain proximity to residential areas.

Consolidation of Sign Modification Applications: As discussed extensively in the staff report, the proposed amendment consolidates the current comprehensive sign plan (CSP), special exception (SE), and special permit (SP) applications requesting sign modifications in Planned, Commercial, and Industrial districts into one SE request with specific criteria. The changes to the sign regulations do not decrease the overall by right amount of signage permitted, and in certain situations (such as in Option 2 for building-mounted signs in C and I districts), the changes would result in an increase in signage for buildings meeting certain criteria. The new special exception continues to allow for flexibility through this modification request. The most significant change is that in Planned districts, the new SE process will require approval by the Board rather than approval by the Planning Commission.

Land use attorneys and industry representatives have expressed concerns that the proposal could impact placemaking and economic development, as the additional requirement for a public hearing before the Board would result in a more cumbersome and lengthy process than the current CSP process. They have suggested the following mitigation solutions:

6. **Expedited review and processing of sign special exceptions and concurrent notice/scheduling of public hearings:** The Zoning Evaluation Division will explore process improvements for the new special exception for sign modifications, which may include an expedited review schedule and inclusion of the sign permit review staff during the entitlement process. Staff will, as always, assign schedules that reflect the complexity of the application, such as a shorter timeline for amendments to previously approved comprehensive sign plans or special exceptions for signage. Much of the overall application timeline is driven by the responsiveness of the applicant to comments provided, and staff will continue to work closely with the applicant to advance these applications in an expeditious manner. It should be noted that on average, approximately nine CSPs and two SEs for signage are received each year.

As mentioned at the public hearing and in the staff report, staff continues to recommend that as part of a follow-on motion, the Board consider adopting a policy allowing expedited scheduling of Planning Commission and Board hearing dates.

7. **Increasing sign area through a minor modification:** [Subsection 8100.5.A\(1\)10](#) of the Zoning Ordinance explicitly prohibits any minor modification that would expand the area or type of signage approved; however, changes to color and typeface may be considered as part of a minor modification. Any changes to this provision would not be within the scope of advertisement of the Zoning Ordinance amendment. Further, staff believes that changes to the approvals that result in additional sign area should go through the public hearing process rather than be done administratively.
8. **Increasing the by-right signage allowed in the County's development centers:** This is not within the scope of advertisement of the Zoning Ordinance amendment.
9. **Simplify the special exception requirements for signage applications:** As shown in the proposed text on pages 19 and 20 of the staff report, staff has proposed alternative submission requirements in lieu of the standard special exception application requirements

for sign modification applications. These are consistent with what is currently requested for review of a CSP application.

- 10. Remove affidavit requirements from signage applications:** In accordance with subsection 8101.3 of the Zoning Ordinance, an affidavit is required to be filed with a special exception application. Removal of this requirement for a modification of the sign requirements is outside the scope of advertisement.
- 11. Why remove the requirement that the applicant demonstrate unusual circumstances?** Concerns from the community were raised regarding removal of the “unusual circumstances” criteria for an SE application. During the review of several previous SE applications, some Board members expressed concern that the standards requiring the applicant to demonstrate unusual circumstances or conditions of the lot to have the request approved were overly restrictive and did not allow for consideration of economic or placemaking benefits. All sign SE requests would be required to meet listed standards ([page 16 of the draft text included in the staff report](#)), including standards related to size, compatibility, impact on the adjacent existing or planned development, aesthetic compatibility, and other standards. These applications would also have two public hearings where the community can provide input, and the Board can impose development conditions mitigating impacts.

Other Topics

- 12. Would an illuminated or electronic window sign be allowed with a home-based business?** No, it would not be permitted. [Page 4 of the draft text](#) states that “window signs for any nonresidential use” are allowed; a home-based business is an accessory use to a residential use, and it is not considered a nonresidential use.
- 13. Opposition to interpretation of the size limitation on signs in or adjacent to a reserved parking space:** Currently, signs located within or adjacent to reserved parking spaces are limited to a maximum size of one square foot by interpretation. These signs often range in size and purpose (such as limiting parking for electric vehicle charging or identifying a curbside pickup space). Staff has not found any other jurisdiction that regulates these sign types, and commercial property owners have an interest in managing the balance of long-term and short-term parking spaces to meet the needs of its customers. In addition, many of these sign types would not be considered “signs,” as they would not be visible from any public or private street. Therefore, staff has proposed to no longer apply this interpretation that limits their size.
- 14. Requiring parameters for signs associated with multifamily buildings:** A comment was received suggesting standards (including size and illumination) be added for signs associated with multifamily buildings. The proposed amendment includes specific limitations for these sign types. Page 10 of the draft text outlines that a multifamily development is limited to one of the following: one freestanding sign up to 30 square feet and eight feet in height; a freestanding sign at each major entrance up to 30 square feet and eight feet in height (with a total of all signs limited to 30 square feet); or 50 square feet of building-mounted signage. These signs would be subject to the regulations for internally illuminated signs per subsection 5109.3.B or the electronic display sign regulations,

depending on the method of illumination.

15. Require ordering boards associated with a drive-through be subject to all sign

regulations: A comment was made that ordering boards should continue to be subject to all sign regulations. Currently, any ordering board visible from a street would be regulated as a freestanding sign. Commercial shopping centers, where many drive-through uses are located, are only permitted one or two freestanding signs (depending on if they are located on multiple major thoroughfares). Therefore, no additional signage would be allotted for ordering boards, which effectively prohibits them. As ordering boards are typically in association with drive-through uses that require special exception approval and a public hearing, limitations on number and size can be placed upon them as part of that review. If no limitations were imposed, these signs would be limited to 20 square feet in size.

16. Suggested language for signs associated with a single-family dwelling undergoing

construction: Suggested language was submitted for signs associated with a single-family dwelling undergoing construction that would limit “commercially-oriented” signs to four square feet. However, identifying a “commercially-oriented sign” is a content-based regulation and cannot be applied or enforced. The proposed language also suggested tying the timeframe for display to six months after issuance of the first permit for the site. As a construction, improvement, or renovation project may not always require a building permit (such as replacement of cabinetry or other minor interior renovation work), this time limitation cannot be applied to all projects.

If you have any questions, please contact me at 703-324-1314.

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