

Community Friendly Lighting Design Guide

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(SOLA)**



Smart Outdoor Lighting Alliance (SOLA)

Municipal Lighting Goals

- **Reduce energy and maintenance costs**
- **Driver/pedestrian safety**
- **Reduce crime/enhance “feeling” of safety**
- **Deter litigation**
- **Promote commercial activity**
- **Enhance social interaction/mobility**
- ***Minimize adverse impact, ecological & visual (glare, light trespass & skyglow)**

LED Lighting 101

- **Broad spectrum white LED light is a major shift for public lighting and fundamentally different**
- **Too much blue SPD increases the perception of glare and light trespass, & increases skyglow**
- **Use fully shielded fixtures to minimize glare, light trespass, & skyglow**
- **Warmer CCT enhances visual comfort**

LED Lighting 101

Increased visibility of LED allows lower lighting levels

- **Use pedestrian centric lighting for neighborhoods**
- **Use controls to adjust lighting levels to match RP-8-18 recommendations**
- **RP-8 minimum levels now appear 50% brighter with white light**

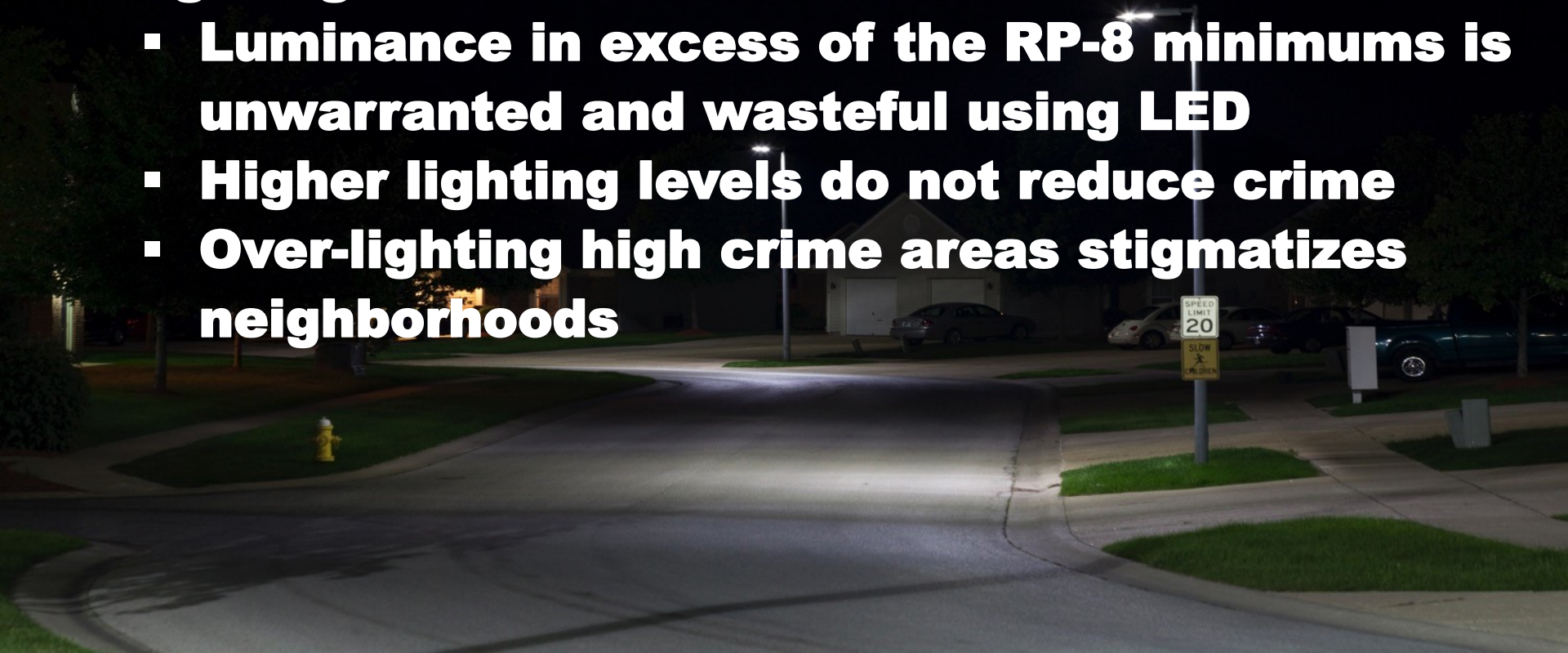


LED Lighting 101

- **We see by contrast, not brightness**
- **Increased brightness doesn't necessarily increase visibility**
- **Broad-spectrum white light improves both luminance and chrominance contrast which improves visibility**

Municipal Lighting Choices

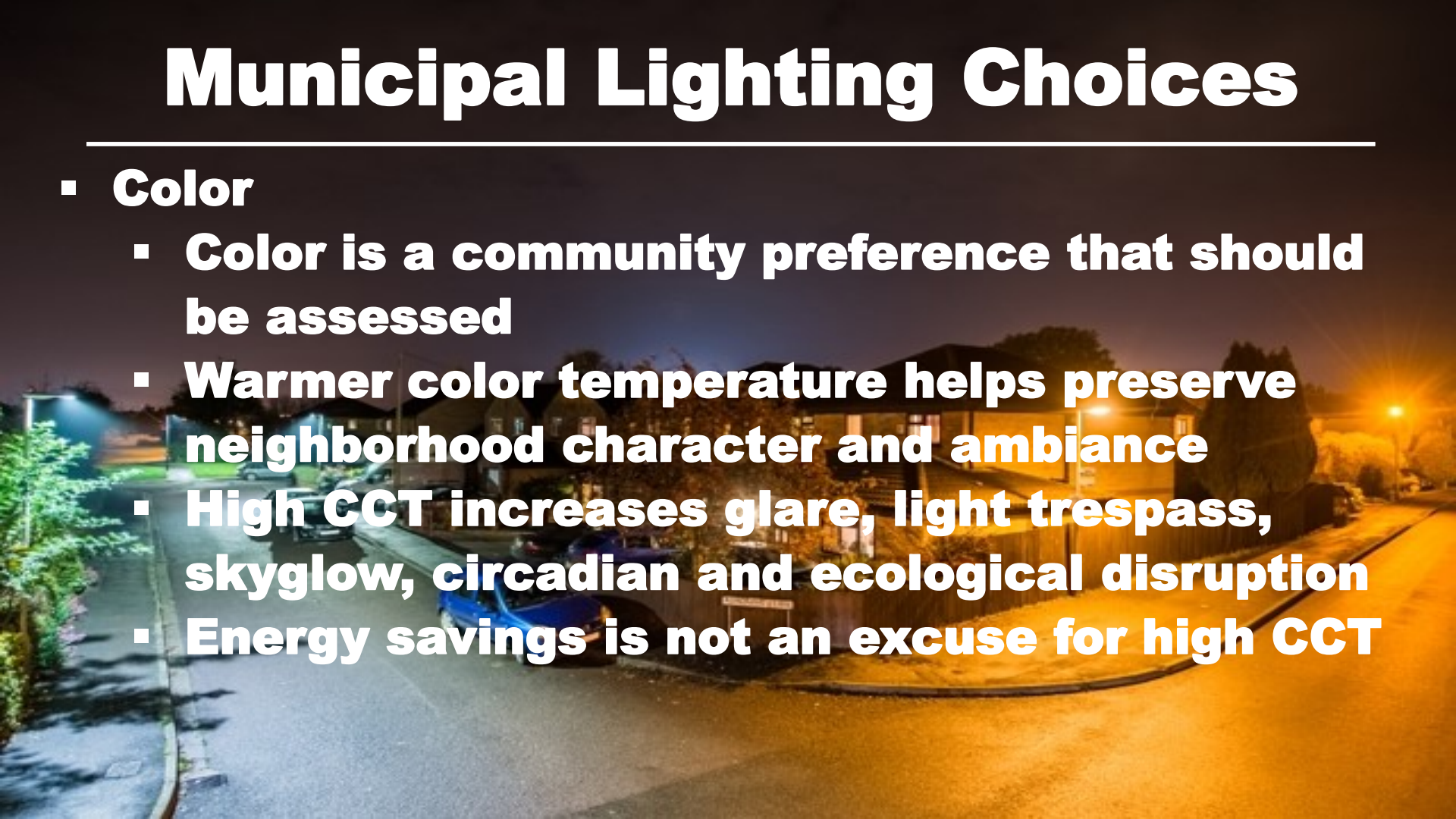
- **Lighting Levels**
 - **Luminance in excess of the RP-8 minimums is unwarranted and wasteful using LED**
 - **Higher lighting levels do not reduce crime**
 - **Over-lighting high crime areas stigmatizes neighborhoods**



Municipal Lighting Choices

- **Color**

- **Color is a community preference that should be assessed**
- **Warmer color temperature helps preserve neighborhood character and ambiance**
- **High CCT increases glare, light trespass, skyglow, circadian and ecological disruption**
- **Energy savings is not an excuse for high CCT**



Municipal Lighting Choices

- **Visual Comfort**
 - **Using appropriate BUG rated fixture reduces adverse impact and improves visual comfort**
 - **Uniformity doesn't trump glare/light trespass**
 - **Point source LED without diffusion reduces visual comfort, especially for pedestrians**
 - **Plenty of fixtures with improved visual comfort available now**

Improved Visual Comfort



AMA Recommendations

- **Use warm white light <3000K CCT**
 - **Minimize blue spectral power distribution**
- **Reduce adverse impact from**
 - **Glare**
 - **Light trespass**
 - **Sky Glow**
- **Minimize circadian disruption**
- **Reduce ecological impact/Light pollution**

Lighting Ordinances

- **Requires comprehensive approach**
- **Must address quality & quantity of lighting**
- **Implement during permit stage**
- **Use BUG rating for fixtures**
- **Reduce glare and light trespass with shielding**
- **Consider 10 year sunset for existing fixtures**
- **Site modifications >50% require upgrade**
- **Limit color temperature NTE 3000K CCT**

Staunton Specific

- **Consider a city lighting design standard to better unify the “look” of city lighting**
- **New fixtures now available from Dominion**
- **Request that cobra replacements use fully shielded, 3000K, Cree RWS by Dominion**
- **Install controls on all city owned fixtures**
- **Enhance lighting ordinance**

Community Friendly Lighting Best Practices

- **Lighting quality over quantity**
- **Smart controls to maximize savings/flexibility**
- **Vary lighting intensity to match traffic volume**
- **Use BUG 0-1 to reduce glare, uplight, & light trespass**
- **Choose fixtures with improved visual comfort
(See CFL approved fixtures at:**
- **<http://sola.lighting/cflcertified/>**

Community Friendly Lighting Best Practices

- **Engage public to develop consensus-based community friendly lighting standards**
- **Embrace pedestrian centric lighting design**
- **Understand and minimize ecologically impact**
- **Use the Smart Outdoor Lighting Alliance (SOLA) website www.sola.lighting**





Thank you, Questions?

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Community Friendly Lighting Program