

# *Light Pollution*



Information the Planning and Development May 6, 2013

# Terms to Review

- Light Pollution
- Light Trespass
- Glare
- Over-illumination
- Light Clutter
- Skyglow

# What is Light Pollution?

- National Park Service Definition:

*Principally, the illumination of the night sky caused by artificial light sources, decreasing the visibility of stars and other natural sky phenomena. Also includes other incidental or obtrusive aspects of outdoor lighting such as glare, trespass into areas not needing lighting, use in areas where or at times when lighting is not needed, and disturbance of the natural nighttime landscape.*

# Light Trespass

- Unwanted light projected onto a property from a fixture not located on that property.
- Most ordinances are written primarily to reduce light trespass as this is the most common form of complaint.

# Light Trespass Example



# Light Trespass Example



# Glare

- Difficulty seeing in the presence of bright light such as direct or reflected sunlight or artificial light such as car headlamps at night.



# Over-illumination and Light Clutter

- The concept of over-illumination encompasses three separate but related concerns:
  - Use of more artificial illumination than required is expensive and energy-intensive. This includes consideration both of the appropriate level of illumination when spaces are in use, and when they are unoccupied.
  - Clinical studies show that excessive levels of artificial light produce annoyance and health effects in a large fraction of the population. These effects may depend on the spectrum of the light as well as the overall brightness.
  - Over-illumination can contribute to light pollution, where stray light illuminates the outdoors or others' property, where it is unwanted. Over-illumination is a topic normally addressed in the process of building design, whereas light pollution is normally addressed by zoning regulations.
- Light Clutter refers to excessive groupings of light.



# Over-illumination/Light Clutter Example



# Skyglow

- Skyglow refers to the "glow" effect that can be seen over populated areas. It is the combination of all light reflected from what it has illuminated escaping up into the sky and from *all* of the badly directed light in that area that also escapes into the sky, being scattered (redirected) by the atmosphere back toward the ground.
- It occurs from both natural and human-made sources.

# Skyglow Example



# Skyglow Example



# Skyglow Example



# Skyglow Example



# What to Do?

- Things we can't completely control:
  - Glare
  - Skyglow
- Things we can control:
  - Light Trespass
  - Over-illumination/Light Clutter

# Should We Control?

- These regulations can be part of the police power to protect the safety and welfare of our citizens





# Ordinances

- Many options:
  - Require types of lighting
  - Angles of lighting
  - Number of lights
  - Brightness of lighting
- Richland County
- City of Conway

*Current Situation Discussion*