

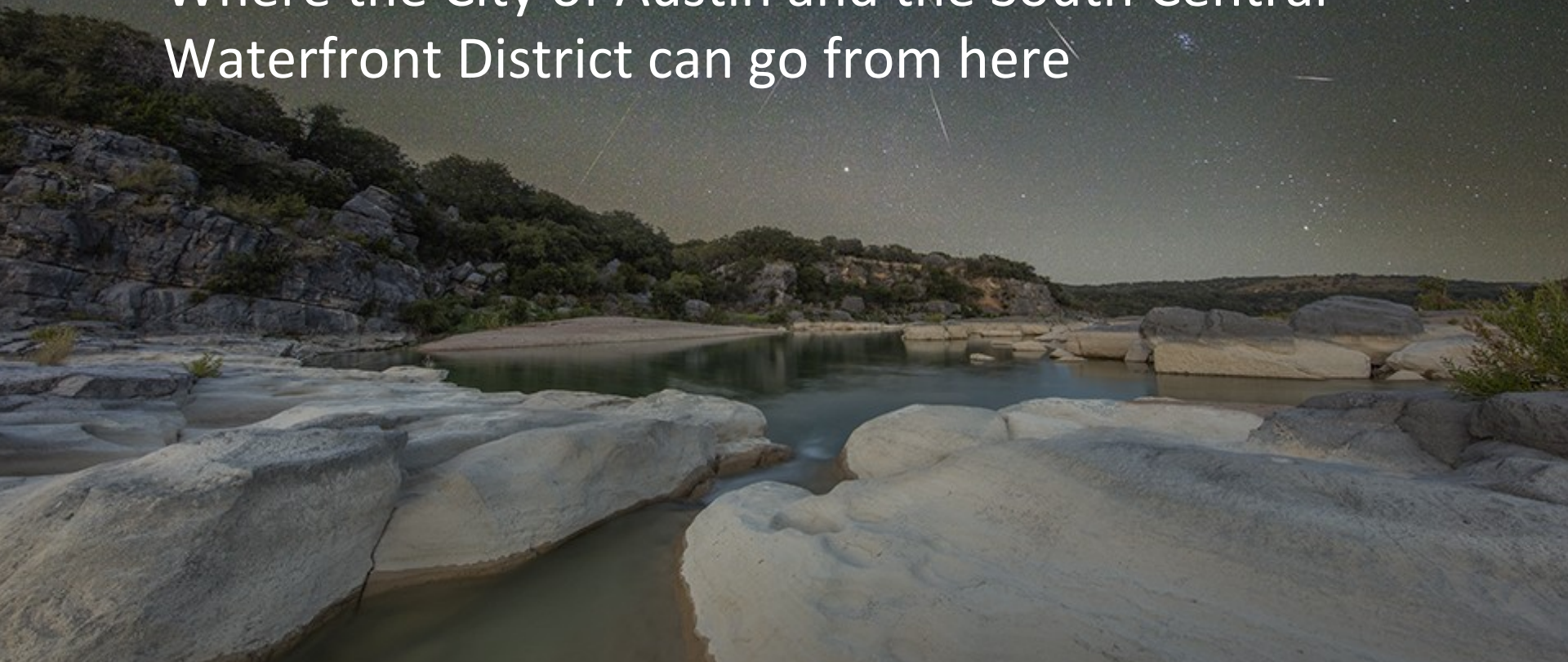
Hill Country Alliance
Night Sky Preservation in Austin and Travis County
Presentation to the City of Austin
South Central Waterfront Advisory Board
January 19, 2021

Contact:
Cliff Kaplan
Program Director, Hill Country Alliance
cliff@hillcountryalliance.org, 512.387.3097



Today's presentation:

- What night sky preservation is and why it matters
- Current efforts for night sky preservation
- Where the City of Austin and the South Central Waterfront District can go from here



I - 35 divides the mostly dark half of the US from the very light polluted half





Light pollution can be caused by urbanization or industrialization, but it doesn't have to be...

Why does night sky preservation matter?

Visibility for comfort, security, and driving: Glare from unshielded lights *reduces* our ability to see at night, by making shadows darker.





Why does night sky preservation matter?

Habitat: Preserving naturally dark nights is a vital part of preserving habitat.

All of the plants and animals that live in Central Texas, including humans, are evolved for dark nights.



erlinTuttle.org



Why does night sky preservation matter?

Habitat: Preserving naturally dark nights is a vital part of preserving habitat.

All of the plants and animals that live in Central Texas, including humans, are evolved for dark nights.

- Pollinators (eg moths)
- Fireflies
- Frogs
- Birds
- Bats
- Deer
- Coyotes
- Etc. etc.

Why does night sky preservation matter?

Wasted electricity: It is estimated that 33% of all outdoor lighting is wasted by shining where it is not intended to be.



VS.



Why does night sky preservation matter?

Wasted electricity: It is estimated that 33% of all outdoor lighting is wasted by shining where it is not intended to be.

That amounts to between 10 and 15 million tons of CO₂ annually in the US, for residential lighting alone. Overall, \$3 Billion are spent annually in the US on outdoor lighting shining where it is unintended.

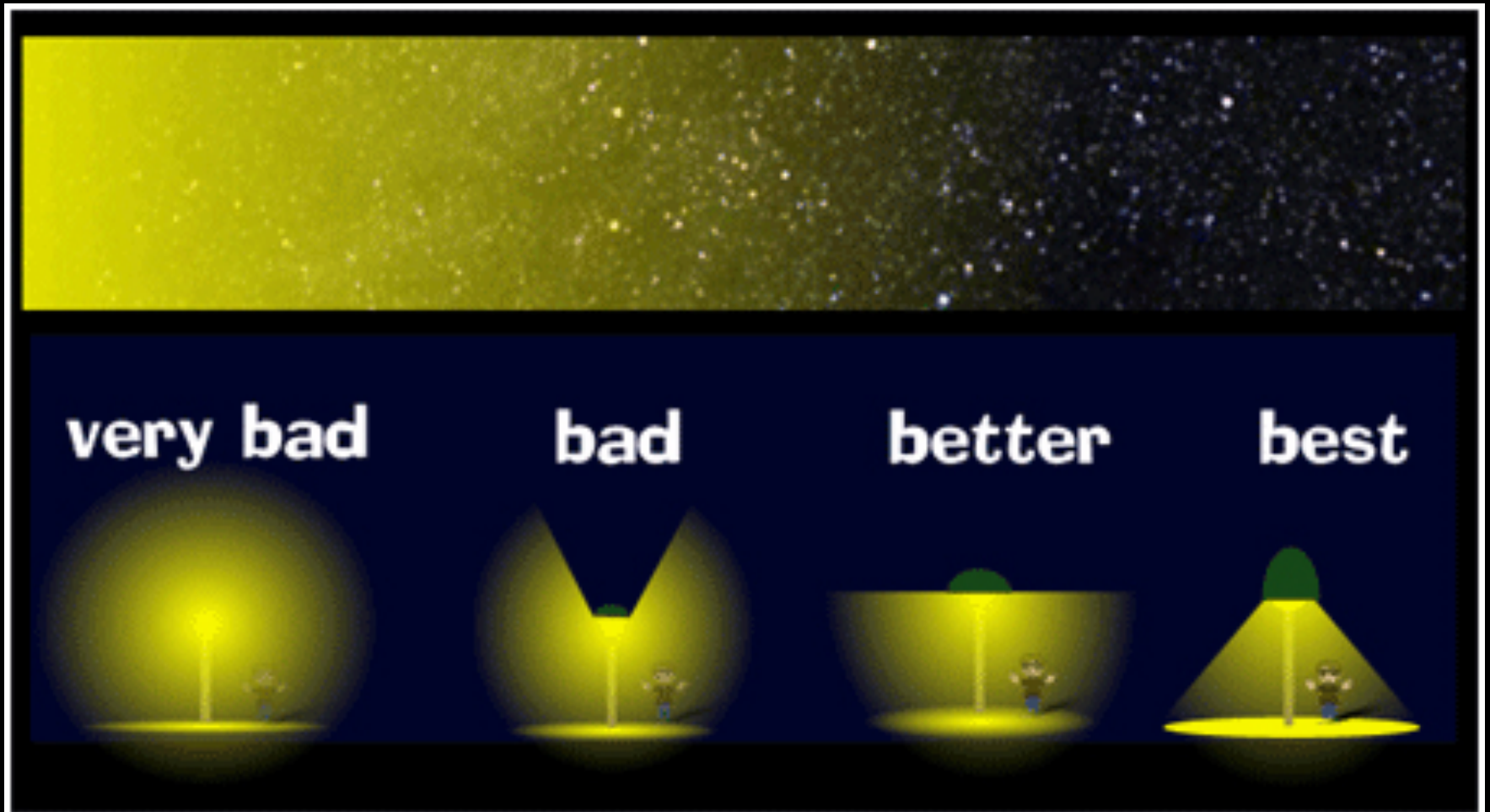
Why does night sky preservation matter?

Tourism and recreation: Central Texas destinations, including some in Austin, are enjoyed for their star-filled skies.



What is good lighting?

- Fully Shielded: No sky glow, glare, or light trespass



What is good lighting?



Outdoor lights should be rated **3000K** or below

Lighting Facts		Per Bulb
Brightness	820 lumens	
Estimated Yearly Energy Cost \$7.23		
Based on 3 hrs/day, 11¢/kWh		
Cost depends on rates and use		
Life		
Based on 3 hrs/day		1.4 years
Light Appearance		
<div>Warm—————Cool</div> <div><div>▲</div><div></div><div></div></div> <div>2700 K</div>		
Energy Used		
		60 watts

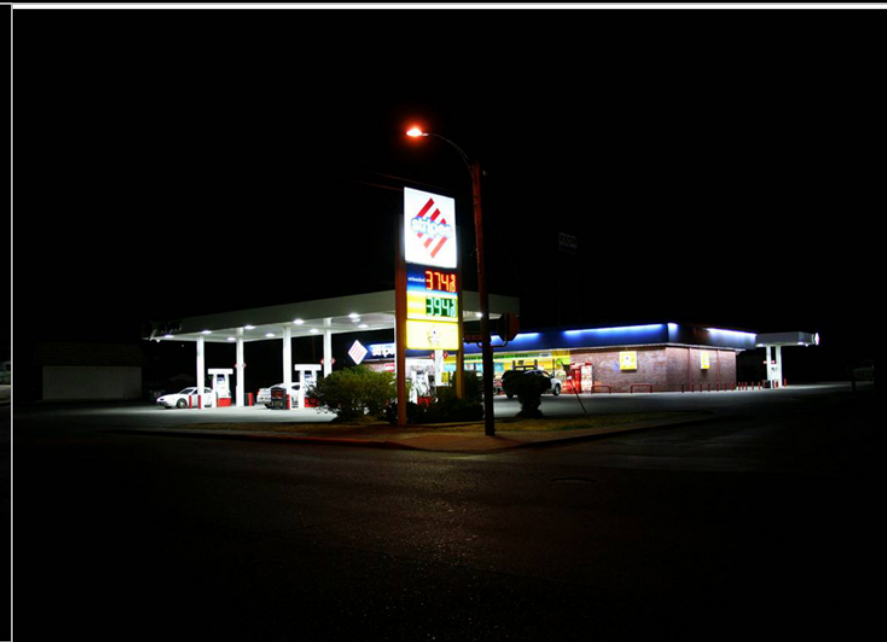
What is good lighting?

- Fully Shielded: No sky glow, glare, or light trespass
- Correlated Color Temperature at or below 3000K
- Only on when needed: use switches and sensors
- Not more than is needed for a specific task



What is good lighting?

- Fully Shielded: No sky glow, glare, or light trespass
- Correlated Color Temperature at or below 3000K
- Only on when needed: use switches and sensors
- Not more than is needed for a specific task



What is good lighting?

- Fully Shielded: No sky glow, glare, or light trespass
- Correlated Color Temperature at or below 3000K
- Only on when needed: use switches and sensors
- Not more than is needed for a specific task

Flagstaff's Thorpe Park — the right light at last!



What is good lighting?

- Fully Shielded: No sky glow, glare, or light trespass
- Correlated Color Temperature at or below 3000K
- Only on when needed: use switches and sensors
- Not more than is needed for a specific task



What is good lighting?

- Fully Shielded: No sky glow, glare, or light trespass
- Correlated Color Temperature at or below 3000K
- Only on when needed: use switches and sensors
- Not more than is needed for a specific task



What is good lighting?

- Fully Shielded: No sky glow, glare, or light trespass
- Correlated Color Temperature at or below 3000K
- Only on when needed: use switches and sensors
- Not more than is needed for a specific task

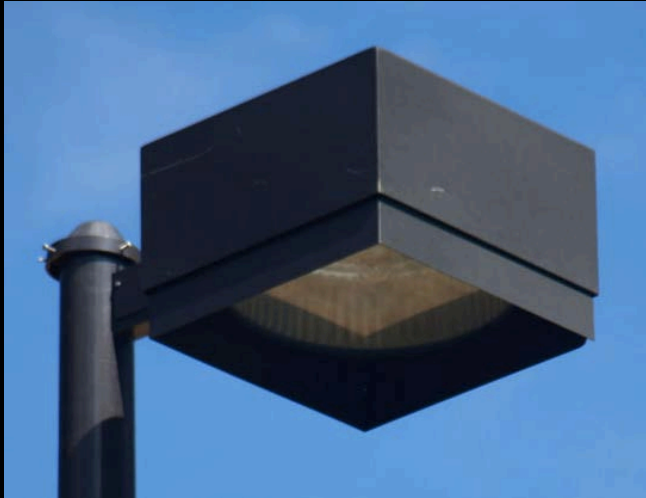


What is good lighting?

- Fully Shielded: No sky glow, glare, or light trespass
- Correlated Color Temperature at or below 3000K
- Only on when needed: use switches and sensors
- Not more than is needed for a specific task



Choose Better Lights for Better Nights



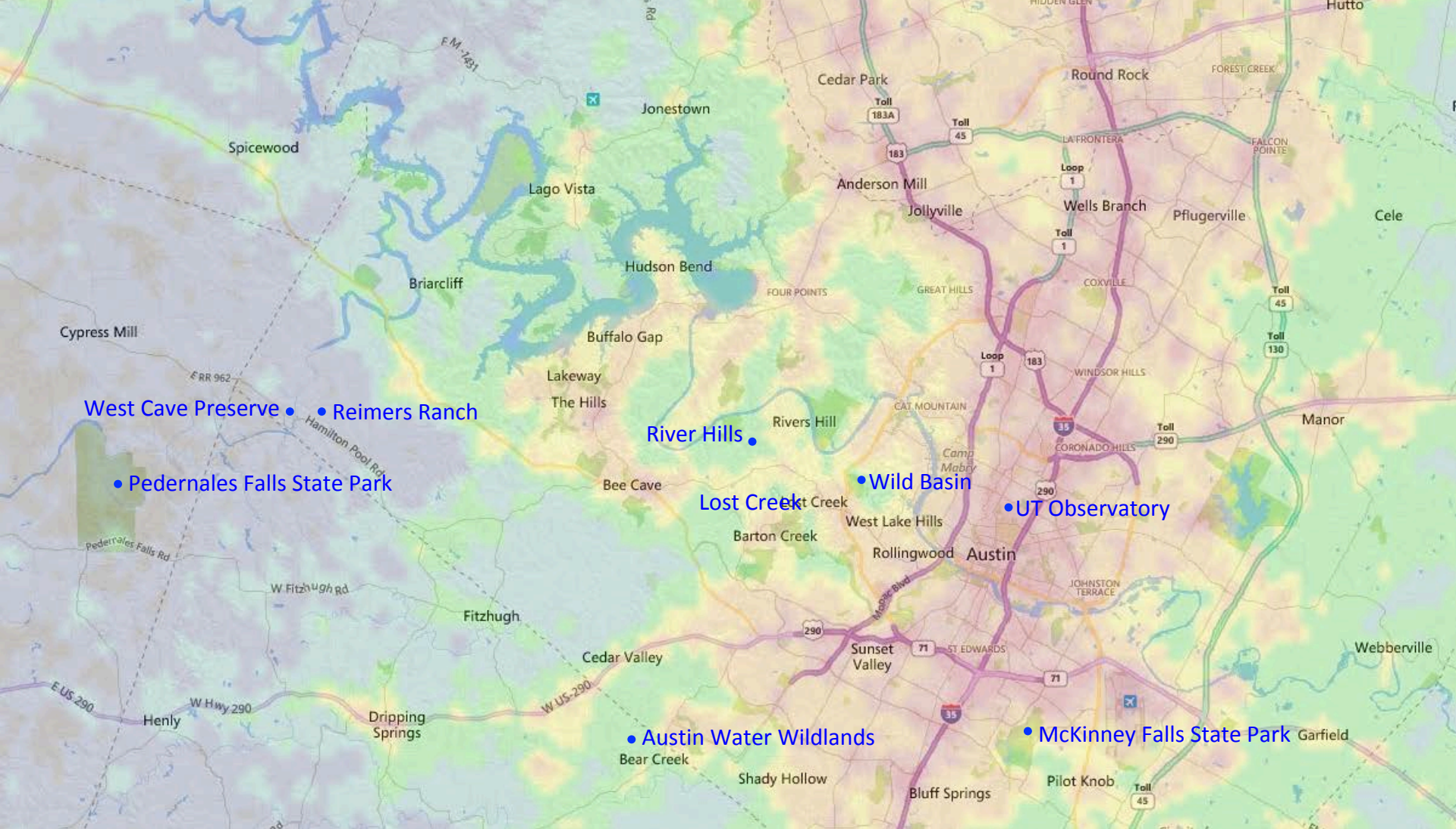




Current efforts for night sky preservation

- Outreach and Education
- Collaboration
- Policy
- South Central Waterfront District





Star Parties are regularly held in Austin and nearby at:

- Austin Water Wildlands sites
- Wild Basin Wilderness Preserve
- McKinney Falls and Pedernales Falls
- UT Observatory on campus
- River Hills Neighborhood
- West Cave Preserve
- Reimers Ranch Observatory
- Lost Creek Neighborhood



Collaboration: Loop 360 Dark Sky Corridor



Meets three times annually to discuss and collaborate on night sky preservation

- Hill Country Alliance
- Travis County Friends of the Night Sky
- COA Office of Sustainability and PARD
- Austin Water Wildlands Division
- Travis County Parks
- McKinney Falls State Park
- Wild Basin Wilderness Preserve
- Austin Bat Refuge
- REI
- Austin Astronomical Society
- Austin Bat Refuge
- IDA Texas Chapter
- And growing...

Policy

COA's outdoor lighting requirements (LDC Subchapter E 2.5) address shielding but do not address:

- Over lighting
- Correlated Color Temperature of LEDs
- Sports lighting
- Street lights
- Billboard lighting
- Grandfathered non-conforming lighting

Streetlight policy in Austin appears to allow for opt-out areas, but in practice, new developments may not be aware of this option or its benefits.

Sunset Valley adopted a very good outdoor lighting ordinance in 2018









South Central Waterfront District Outdoor Lighting



South Central Waterfront District Outdoor Lighting

THIS WEEKEND IN DOWNTOWN TUCSON
MAY 18 - 20



South Central Waterfront District Outdoor Lighting



South Central Waterfront District Outdoor Lighting



South Central Waterfront District

Outdoor Lighting

General categories:

- Publicly owned
 - Parks and trails
 - Streetlights and area lights (eg., parking lots)
- Street level privately owned
 - Sidewalk lighting affixed to buildings and awnings
 - Signage
 - Parking lots
- Billboards
- Towers

South Central Waterfront District Outdoor Lighting

Considerations:

- Safety
- Enjoyment of public spaces (eg., bat-viewing, four-sided development)
- Environmental impact (local and regional)
- Energy use and hardware costs
- Liveability

Strategies:

- Ordinances and COA policy
- Development agreements
- Education and Outreach

Where COA can go from here

- Explore an update to the exterior lighting code
- Examine available options for better implementation of the existing code
- Introduce the subject of lighting into the PUD process
- Engage the South Central Waterfront Advisory Board because pedestrian friendly and urban can also be night sky friendly
- Work with TxDOT and Austin Energy to explore more night sky friendly designs, including smart streetlight systems

The Hill Country Alliance and our partners can help!

Thank you!

Contact:
Cliff Kaplan
Program Director, Hill Country Alliance
cliff@hillcountryalliance.org,
512.387.3097









