



## City of Fort Collins Night Sky

Nature in the City Objective CP2:

*Work cross-departmentally and with external partners  
toward a darker night sky.*

Night Sky Initiative Goals:

- Maintain safety and security
- Develop and implement best practices in outdoor lighting
- Reduce light pollution
- Support human and ecological health

## TRIPLE BOTTOM LINE

### Outdoor Lighting Considerations

#### **SOCIAL**

Safe and effectively lit roadways and other areas, minimized light pollution and glare, and a visible night sky.

#### **ECONOMIC**

Energy cost, replacement cost, installation cost, maintenance cost.



#### **ENVIRONMENTAL**

Human and wildlife health, energy efficiency.

## Multiple Departments/Multiple Activities

- Light & Power
- Building and Zoning
- Facilities
- Natural Areas
- Environmental Services
- Neighborhood Services
- Energy Services





# Best Practices

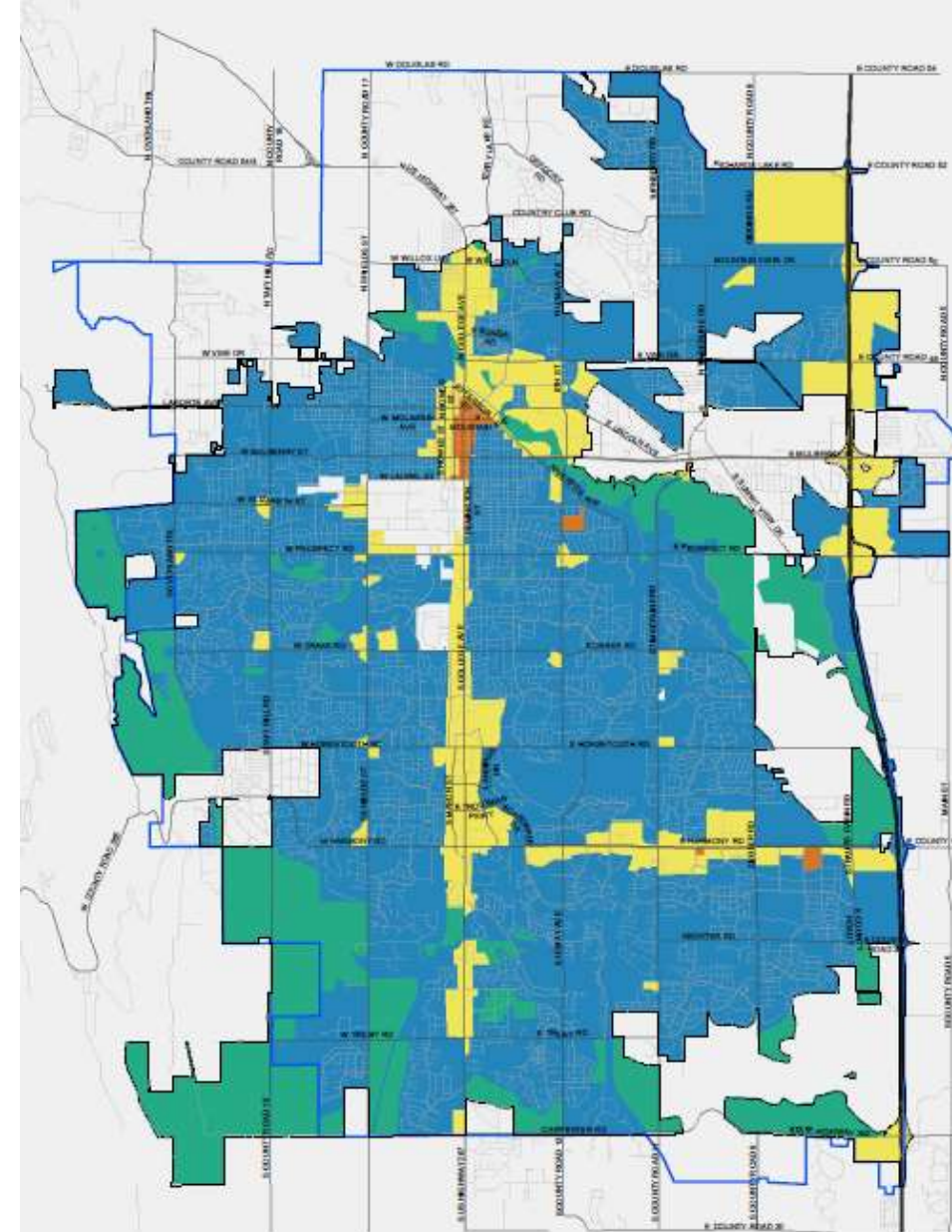


- Light only where you need it
- Light only when you need it
- Shield lights and direct them downward
- Use the minimum amount of light needed
- Select the most energy efficient lighting
- Select lamps with warmer colors



# Initiatives – Lighting Code

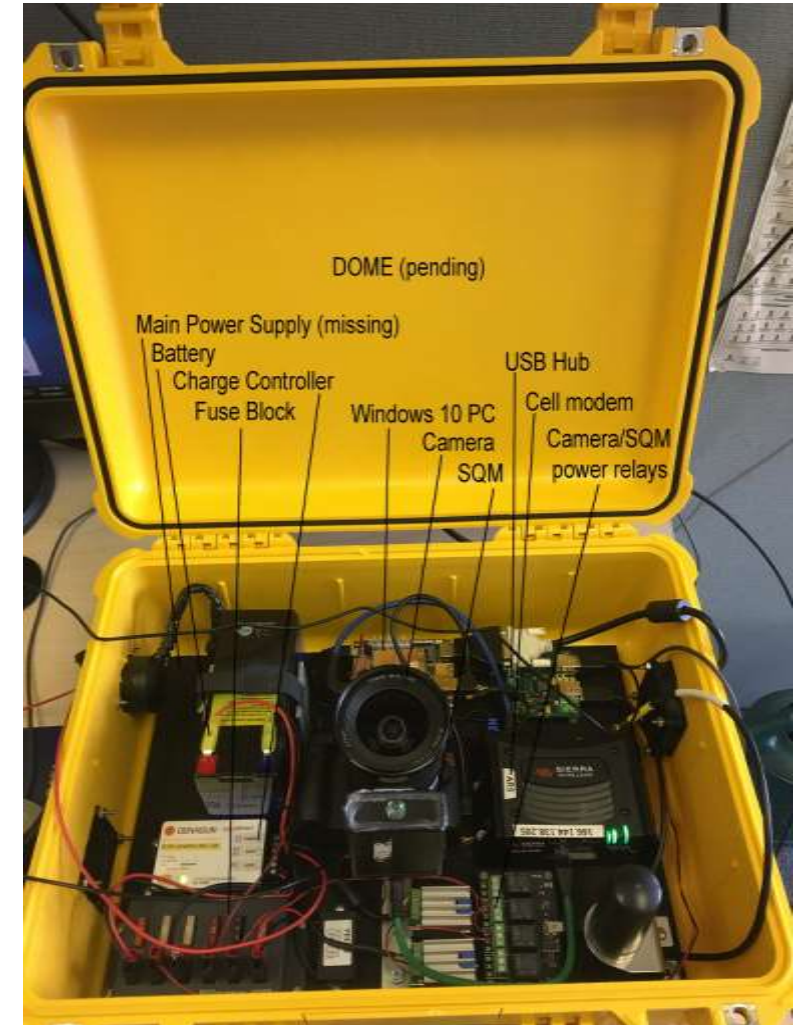
- Night sky friendly lighting on all residential and commercial buildings (Building Code) 2017
- Site lighting (Land Use Code) 2018
- Automatic controls to dim lighting by at least 50% two hours after normal business closing (Energy Code)
- Outdoor lighting (commercial) must be turned off 30 minutes after sunrise (Energy Code)
- Updated Lighting Code adopting Lighting Zones & Lighting Budgets (Land Use Code)





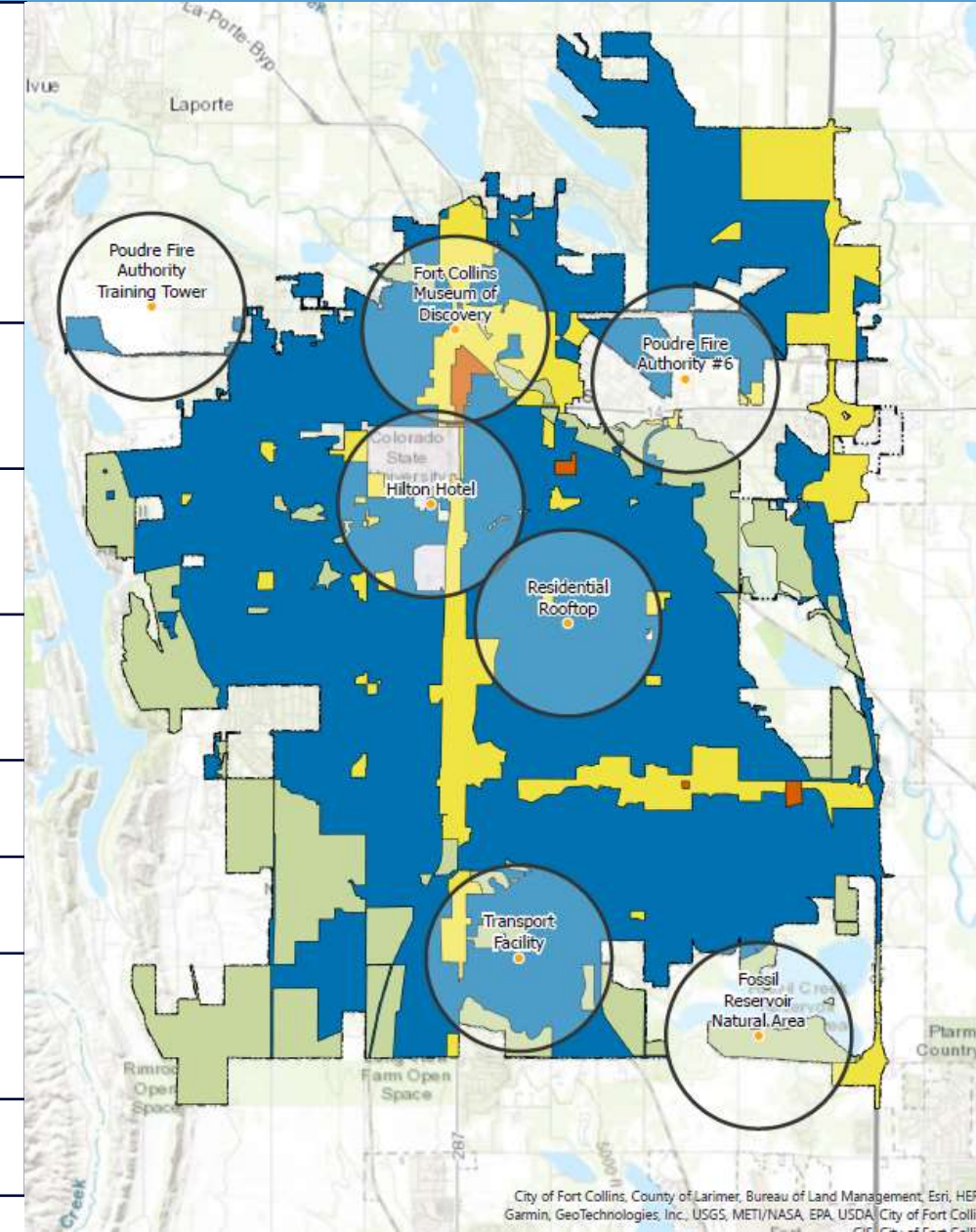
# Initiatives - Monitoring

- 7 locations/ 2 set-ups with cameras
- Collaborating with air quality monitoring
- Soapstone station as “control/darkest”



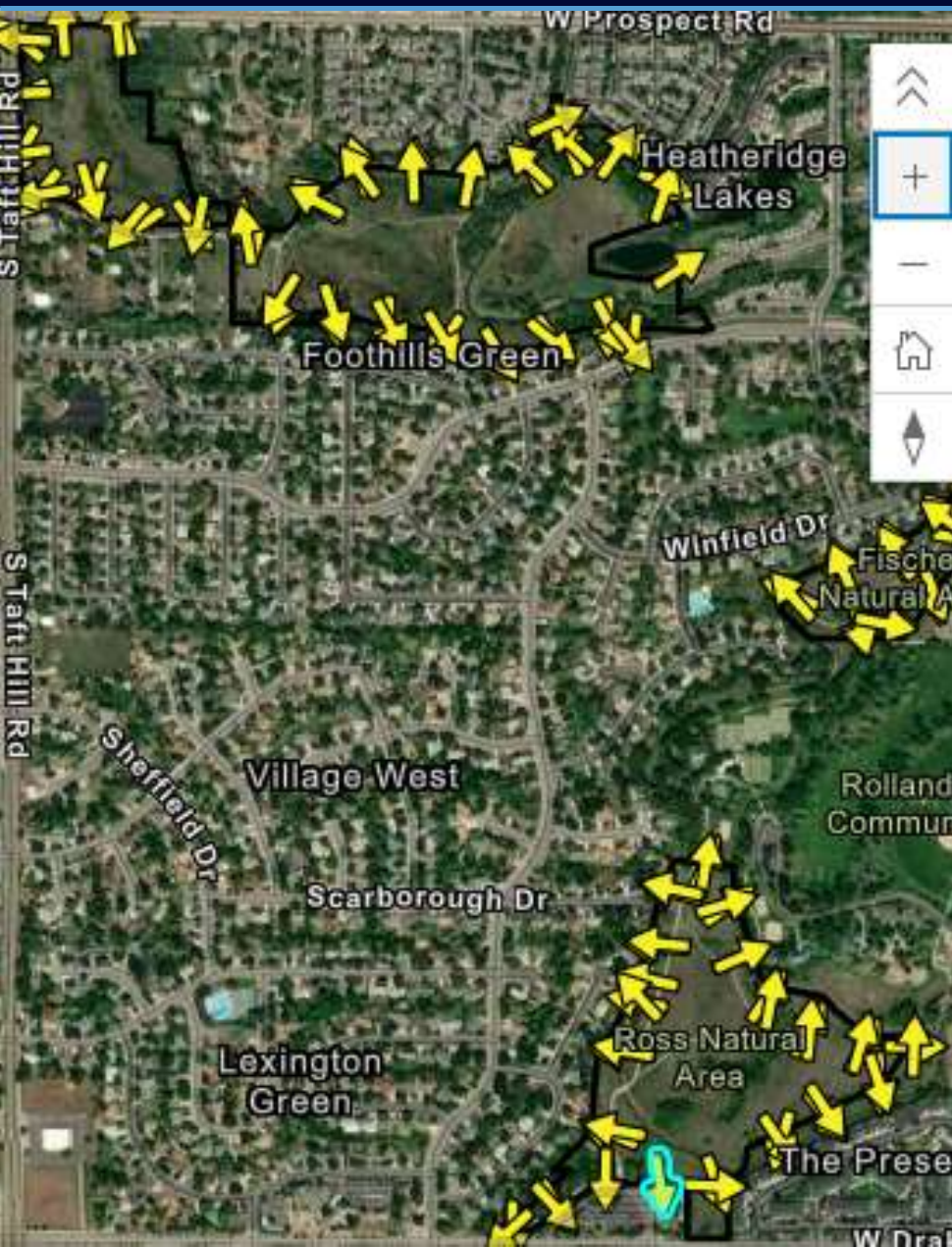
## 2020 Median Overhead Sky Brightness

Site	Sky Brightness in milli-candela (mcd)	Ratio to Natural
Soapstone Prairie Natural Area	0.27	0.53
Poudre Fire Authority Training Tower	0.97	4.55
Fossil Reservoir Natural Area	1.25	6.19
Poudre Fire Authority Station 6	1.74	9.02
Transfort Facility	1.86	9.69
Residential Rooftop	2.10	11.04
Fort Collins Museum of Discovery	2.41	12.83
Hilton Hotel	3.32	18.09





# Initiative – Light Trespass in Urban Natural Areas



Community science effort to measure light trespass onto urban natural areas.

The survey method was collaboratively designed with the National Park Service's Night Sky and Sound division.

The ultimate goal of the project is to reduce light trespass into natural areas to improve the quality of night skies and reduce impacts to wildlife.

# Initiative – Lighting Retrofits

## Streetlights:

- Better technology
- Better light temperatures
- Ability to dim

## Facilities:

- Leading by example
- Process change to no longer require P&Z meeting
- Utilizing multiple funding sources
- Applying learnings











# Initiative: Residential & Education





# Initiative: Residential & Education







0° NORTH

CHEYENNE, WY

CO INTERSTATE GAS COMPRESSOR

GREELEY, CO

FORT COLLINS, CO

90° EAST

180° SOUTH



Thank you!

