



Derby Area Lighting Improvements

May 3, 2021

Purpose

- Recap the Derby Area Lighting Plan approved by Council in 2018 and direction provided by the CCURA in 2020
- Provide a project update
- Share solar panel feasibility findings
- Request CCURA direction on solar energy for Derby

Derby District – Lighting Overview

- The current levels of illumination are inconsistent
 - Inconsistencies in placement, lamp type, bulb color, and installation date
 - Not conducive to feelings of safety and vibrancy
 - Causes patrons to wonder if businesses are open
- These inconsistencies also create maintenance challenges

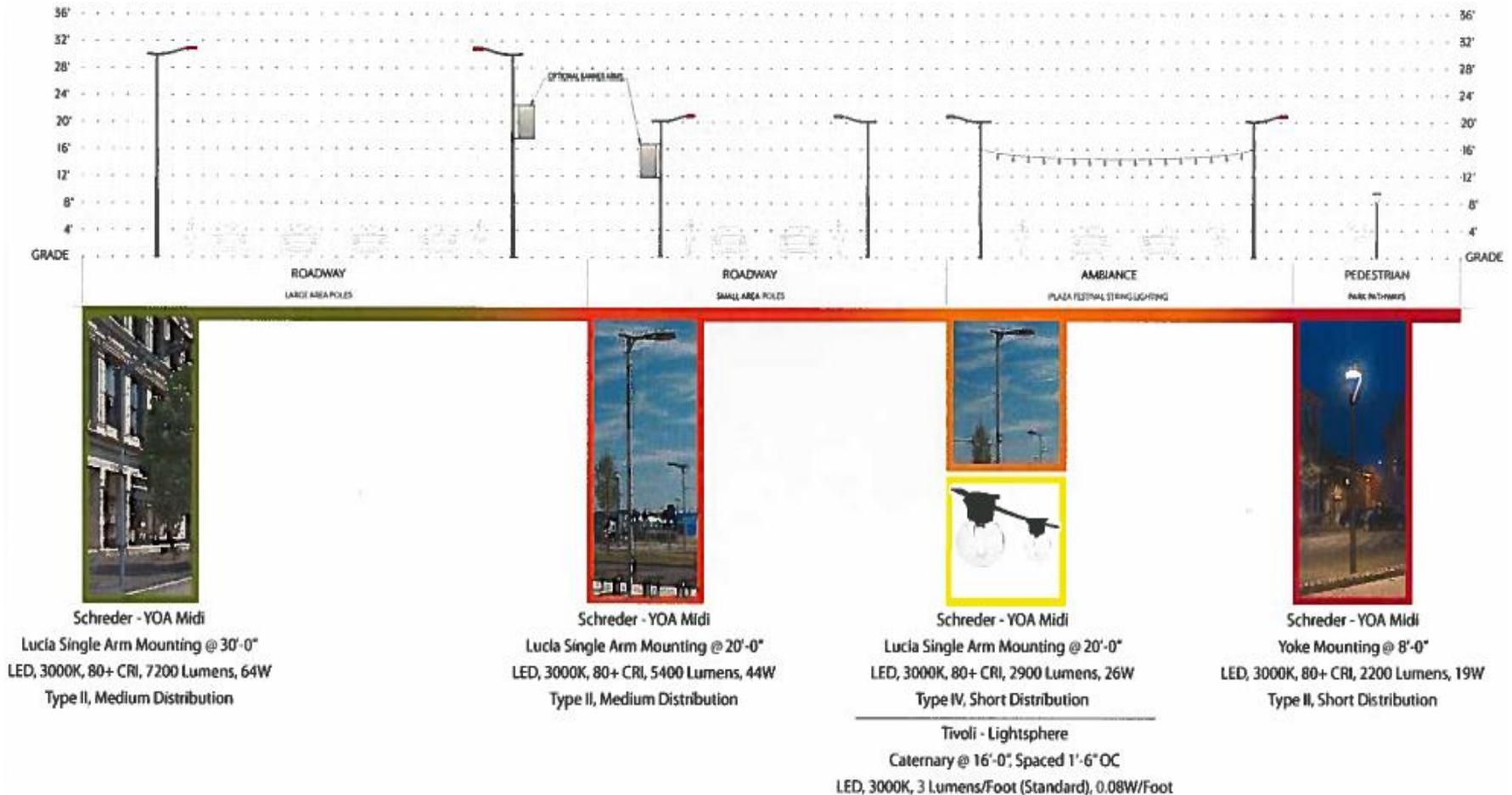
Areas of Concern Recap

- **Small area poles** function as street light and **pedestrian poles**
 - The mounting, post top, and output are the same
- **Large area poles** cover a broader area and are a lower priority since they only benefit drivers
- **Festoon lighting** is not necessary to meet lighting standards



Examples of Proposed Fixtures

- The fixtures were selected during a process to plan for lighting and signage that would form a cohesive visual identity
- The poles feature a custom red paint that will match the entryway sign



Cost Estimates

- Blue font indicates priority

	Price Per Unit	Estimated Quantity	Total Estimated Cost
Large Area Pole	\$3,100	40	\$124,000
Small Area Pole 1	\$2,100	70	\$147,000
Small Area Pole 2	\$2,050	8	\$16,400
Pedestrian Pole	\$1,550	26	\$40,300
Custom Paint for Poles	\$1,000	Price per order	\$1,000
Banner Arm	\$90	50	\$4,500
Festoon Lighting	\$10 per foot	460 feet	\$4,600
Driver for Festoon	\$245	6	\$1,470
Decorative Poles	\$712	4	\$2,848
Control Package (standalone photocells) OR	\$75	144	\$10,800
Control Package (wireless smart system with monitoring capabilities and option to control future signage)	\$245	144	\$35,280

- Priority costs with the more expensive control package totals \$198,680

Available Funds

- **Derby Catalyst:** \$439,123.23 has been transferred to the URA and is eligible for use on the Derby projects
 - **Undergrounding:** Funds are available to help underground utilities
 - 88th, Rosemary, and CO/72nd are eligible
- **CDBG:** Residential sections are eligible
 - Mixed-use areas may also be eligible, if area is included in the five year plan
- **Federal:** Could use new grants person to help find a grant
 - Staff has identified one grant and PW will submit an application this quarter

Steps to Installation

- Water and sewer lines need to be re-done to meet service needs of future development
 - SACWSD is preparing to begin this work
- Need to underground utilities before new light fixtures are installed, otherwise we will have to rip up new fixtures when we underground
 - Streets throughout Derby are narrow and there is a lot of overhead, so undergrounding will be costly
 - Xcel is analyzing staff's undergrounding request
- Need to determine if solar or standard electricity will be used

Colorado Solar Power

- Colorado currently ranks 12th in the nation for use of solar power
 - As of 2020, 3.71% of Colorado's electricity is generated by solar power
- There are over 300 solar companies in Colorado, including 35 manufacturers, 177 developers, and 136 ancillary businesses
- The prices for solar products and energy have fallen 8% over the last 5 years

Small Scale Solar Examples

- Arvada: The Candelas housing development Bennett: The Town Hall and Recreation Center parking lot
- Fountain: School zone signs
- Montrose: Scattered street, pedestrian, and park lighting
- Johnstown: Various pedestrian crossings
- Denver: Various parks

Examples of Failed Use

- Brighton: Inconsistencies in pricing and energy production led to the discontinuation of installation of solar panels in Brighton. Part of the challenge is a CDOT candlelight standard for illuminating highways and major roadways that cannot be reached with the solar lighting. Additionally, the high cost associated with hiring a contractor crew for installation was a financial barrier
- Loveland: Shared they find solar less reliable and more expensive to maintain, but they have only tried solar power for pedestrian crossings and traffic control devices

Staff Recommendation

- Staff recommends not utilizing solar energy for the Derby Downtown District, but believes solar power could be used for other operations, including powering the entryway sign
 - Concern over reliability during snowy days and long periods of overcast
 - Concern over panel stability during high winds
 - Concern over reaching CDOTs standards for major roadways
 - Will likely not illuminate as well or as long during the night
 - Will require modifying the light poles identified for re-use



Discussion

