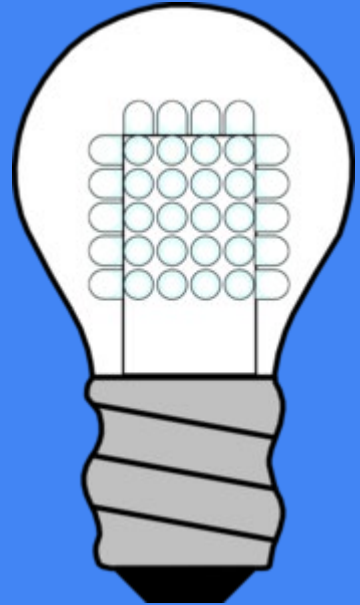


Lack of LED Street Lights

Project Streetlights



Problem

A nighttime photograph of a residential street. In the foreground, a dark asphalt road with a white line runs horizontally. In the background, a row of houses is visible. A street lamp in the center-left illuminates the scene, casting a glow on the road and the houses. Some windows in the houses are lit up, showing warm interior lights. The sky is dark.

- Without street lights, the community isn't lively.
- It's more dangerous for kids that come home late after extracurricular activities.
- More crime can happen.

Location

- Areas in D8 have many civilians who walk around the streets of Bamford.
- The lack of light makes the streets dangerous and civilians have no choice but to walk in the dark.
- It's also dangerous for kids to walk home when it gets late and dark.



Importance of Streetlights On Bamford

- Schools in Close Proximity
- Safer for Student to Walk Home
- Daylight Saving



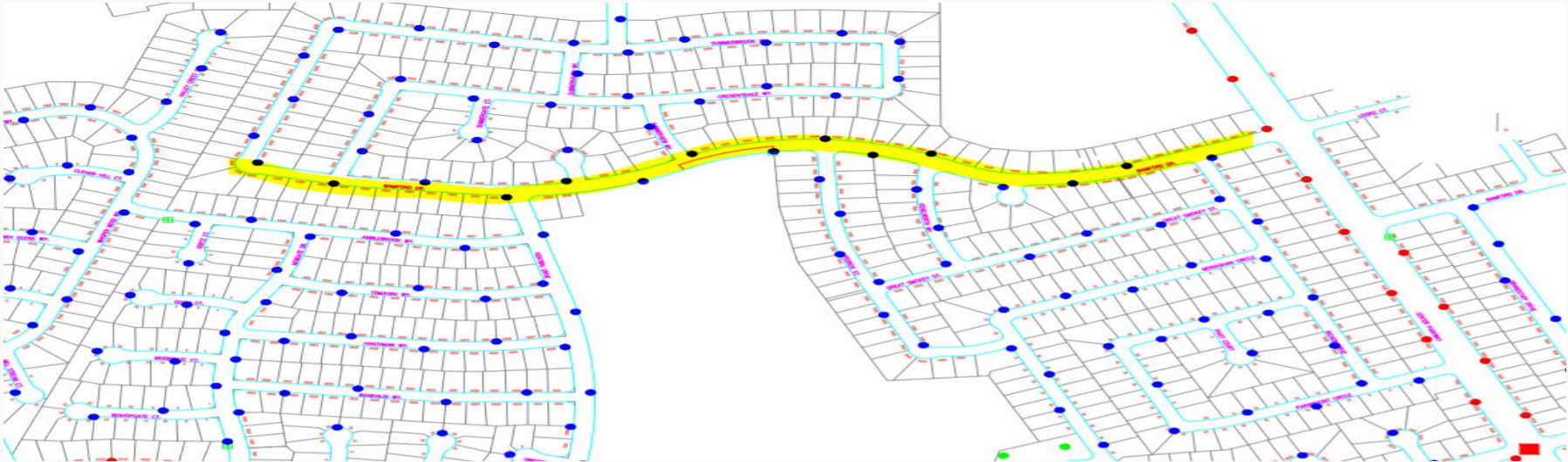


Quality of Life

- More neighborhood activities at night
- Make the Neighborhood more inviting
- Examples of the effects of streetlights can be seen in Fremont Park

The Solution

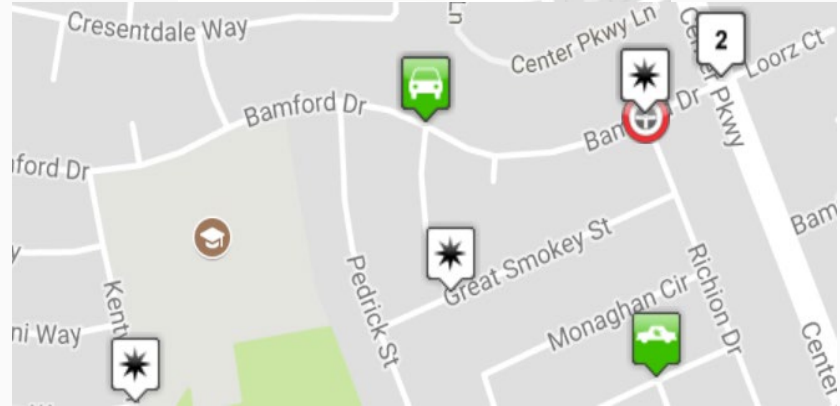
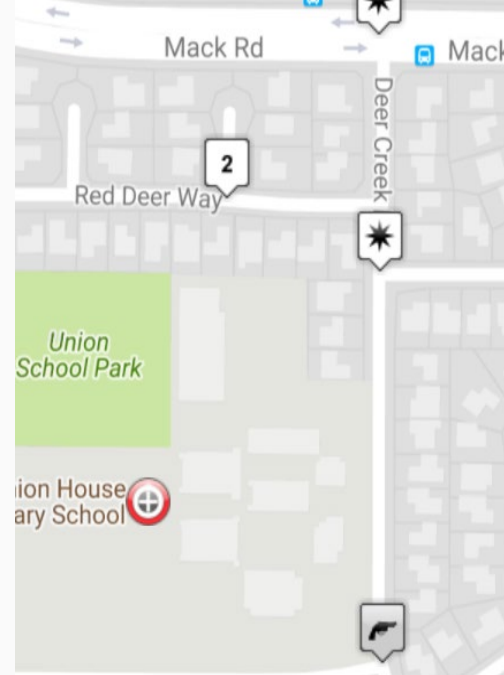
- Replace the bulbs of the existing streetlights
- HPS Bulbs to LED Bulbs



Safety for Bamford to Deer Creek Dr.

- Deer Creek Dr is a street that has a good amount of street lights and has far less crime.
- Bamford Dr. is a street with dim lighting and less amount of street light and more crime.
- Based on studies the streetlight has less crime because of more and or brighter street lights.(Professor Ken Pease)

Deer Creek Drive

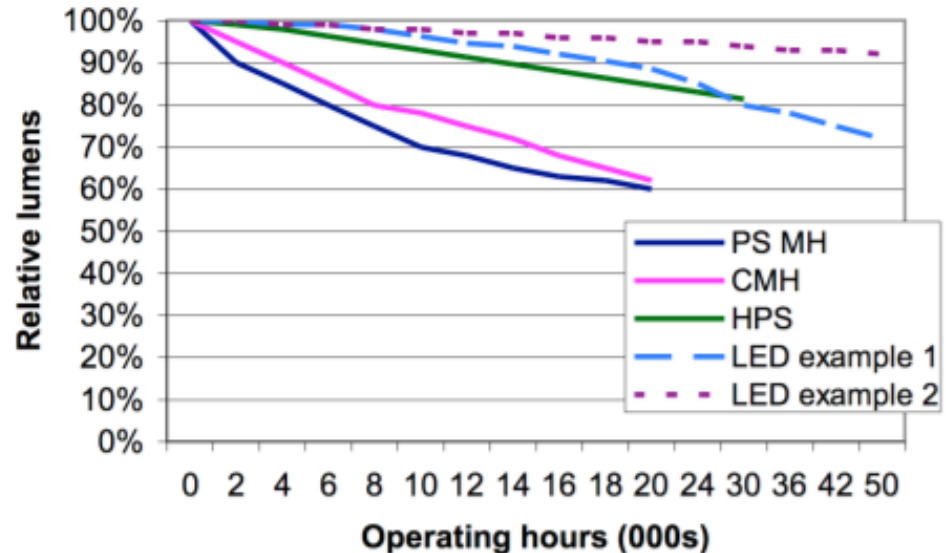
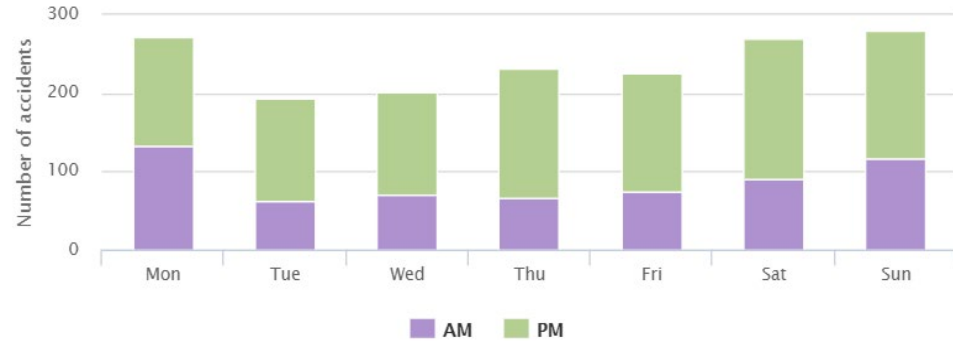


Bamford Dr

Safety cont.

- Less Accidents
 - More accidents happen at night than the day.
 - You can identify/report the person committing crime.
- LED's are brighter than HPS lights

Accidents distribution by week day and time



HPS Lights VS. LED Lights



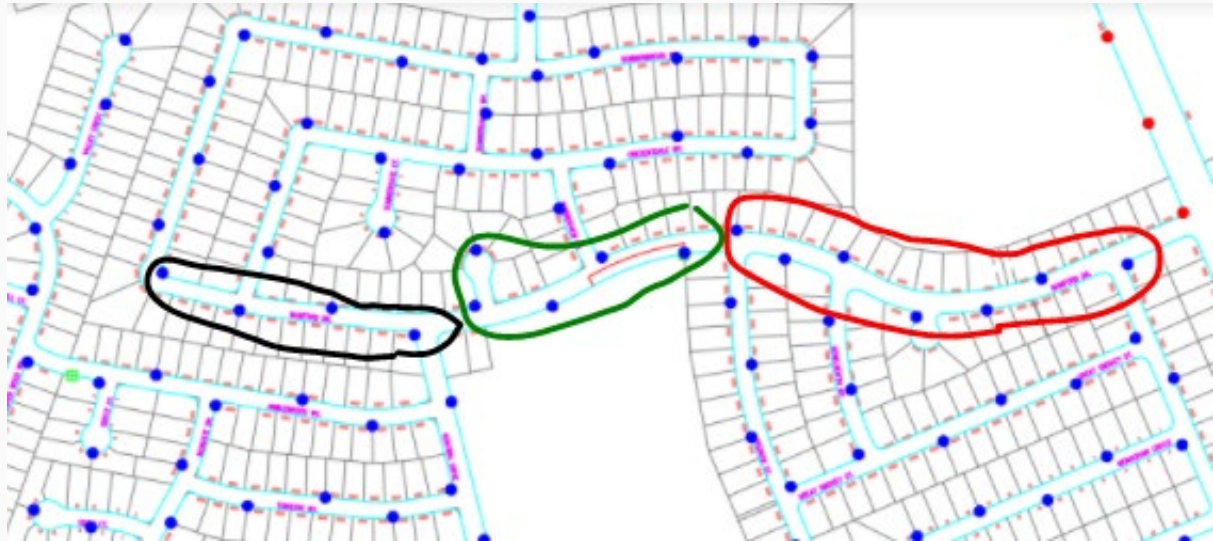
Cost of Streetlights

- \$400 per LED streetlight
- 16 Streetlights on Bamford
- Total Cost: \$6400

2 Methods:

All 16 street lights at once

Retrofit streetlights in 3 phases



Cost comparison (LED vs. traditional)

	LED Post Top - 27W	LU100 (HPS)
Life of Bulb:	50,000 hours	24,000 hours
Watts:	27 watts	100 watts
Kelvin Temp:	2700, 4000, 5700 K	2100 K

Cost comparison (LED vs. traditional)

Cost per Kilowatt:

\$0.1291 per kWh

LED:

\$15.3843 per year

HPS:

\$56.979 per year

Phoenix: HPS to LED Conversion Analysis

Data (Arterial street)	Units	HPS - 250 Watt	LED - 139 Watt
Lamp and Fixture (Mat. Only)	\$	\$230.00	\$475.00
Fixture Installation (Labor)	\$	\$29.00	\$29.00
Manufacturer's Lamp Life	Hours	20,000	50,000
Annual Energy Costs	\$	\$72.36	\$32.88
Lamp Replacement Cost	\$	\$1.20 per month	\$0.60 per month*
Calculations			
Years to Replace Lamp	Years	4	12
Manufacturer's Warranty	Years	1	10
10 year Lamp Replacements	#	2	0
Life Cycle Costs			
Initial Equipment & Install Costs	\$	\$259.00	\$504.00
10 Yr Energy Costs (w/o Infln)	\$	\$723.60	\$328.80
10 Yr Lamp Maintenance Costs	\$	\$144.00	\$72.00
Final Cost Totals			
10 Year Life Cycle Costs	\$	\$1,126.60	\$904.80
Annualized Costs	\$	\$112.66	\$90.48



THANK YOU FOR LISTENING

“And Remember, with just a little light, it’ll be alright”
-Jacari Johnson

Sowrov Talukder, Tou Xiong, Jacari Johnson, Kathleen Thao, Anthony Hara,
Monique Williams, Noah Ramos, Farm Saetern, Josue Hernandez, Stephen
Cutchlow

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