

STREET LIGHT REDUCTION PROGRAM





Background

- Annual energy reduction of \$400,000 approved by Council in November 2008.
- Work will be completed over four years.
- Recommend initiating the program in the Junior College neighborhood.
 - Distinct boundaries and neighborhood groups
 - Varied socio-economic population
 - Unique infrastructure and street lighting issues
 - Very civically engaged community

Proposed Street Light Program

- Safety lighting at traffic signals will remain;
- Lighting directly adjacent to or paired with pedestrian activated beacons or mid-block crosswalks will remain;



Proposed Street Light Program (cont.)

- Lighting within high pedestrian zones will predominantly remain, such as Downtown or Prince Memorial Greenway;



Proposed Street Light Program (cont.)

- One light will remain, where one exists today, at all unsignalized intersections;



- One light will remain at key traffic safety locations where there has been a documented incident history;

Proposed Street Light Program (cont.)

- All Neighborhood Revitalization Program communities will be exempt;
- Programmable photocells will be installed at mid-block locations where long blocks exist or along long uninterrupted street segments where the elimination of all street lighting would be inappropriate.



Typical
Photocell



Programmable Photocells

- Attachment that combines both a light sensor and timer;
- They will be timed to reduce electrical costs by 50%;
- Lights will remain on during normal *active* hours (dusk to midnight) and off during typical *non-active* hours (midnight to either dawn or 5:30 a.m.);



GHG Emission Reductions

- ❑ Adopted goal is to reduce GHG emission by 25% of 1990 levels by 2015.
- ❑ Numerous studies show this goal cannot be achieved through any one action.
- ❑ Energy and water efficiencies have been identified as a critical first step in addressing this goal.
- ❑ Energy efficiency improvements make up approximately 12% of the goal.
- ❑ It is anticipated that this program will reduce GHGs by over 1,000 tons per year.



Public Safety

- ❑ Public Works staff worked closely with the Police Department in determining the feasibility of establishing a street light reduction program.
- ❑ Published studies show no direct correlation between increased street lighting and reduced crime. Studies will be posted on-line.
- ❑ Some studies indicate the introduction of street lighting actually increase the occurrence of crime as perpetrators could monitor their target without the use of flashlights or other lighting tools.



Public Safety (cont.)

- Aspects of public safety that are enhanced by the presence of street lighting:
 - Crossing intersections as a motorist;
 - Pedestrian or cyclist;
 - Identification of unusual or unexpected roadway features, such as tight curves, medians or traffic calming devices;
 - Identification of critical facilities such as hospitals and fire stations.

Public Outreach Plan

- ❑ Establish a clear and simple identity for the program to improve community recognition and identification, such as the “Night Sky Program”;
- ❑ Develop a webpage to describe the program;
- ❑ Post a feature news article for the City Homepage with information about the program;
- ❑ Work with local news outlets and radio interviews, such as the Press Democrat or KSRO, to disseminate information about the program;

Public Outreach Plan (cont.)

- Produce and distribute print materials (rack cards) to all City facilities, City buses, local businesses and neighborhood associations;
- Place decals on the affected lights or wood poles identifying the program, the amount of GHG savings expected for each fixture and whether it is de-energized or modified with a programmable photocell;
- Develop a comfortable and easily accessible method to receive and respond to complaints, concerns and questions.

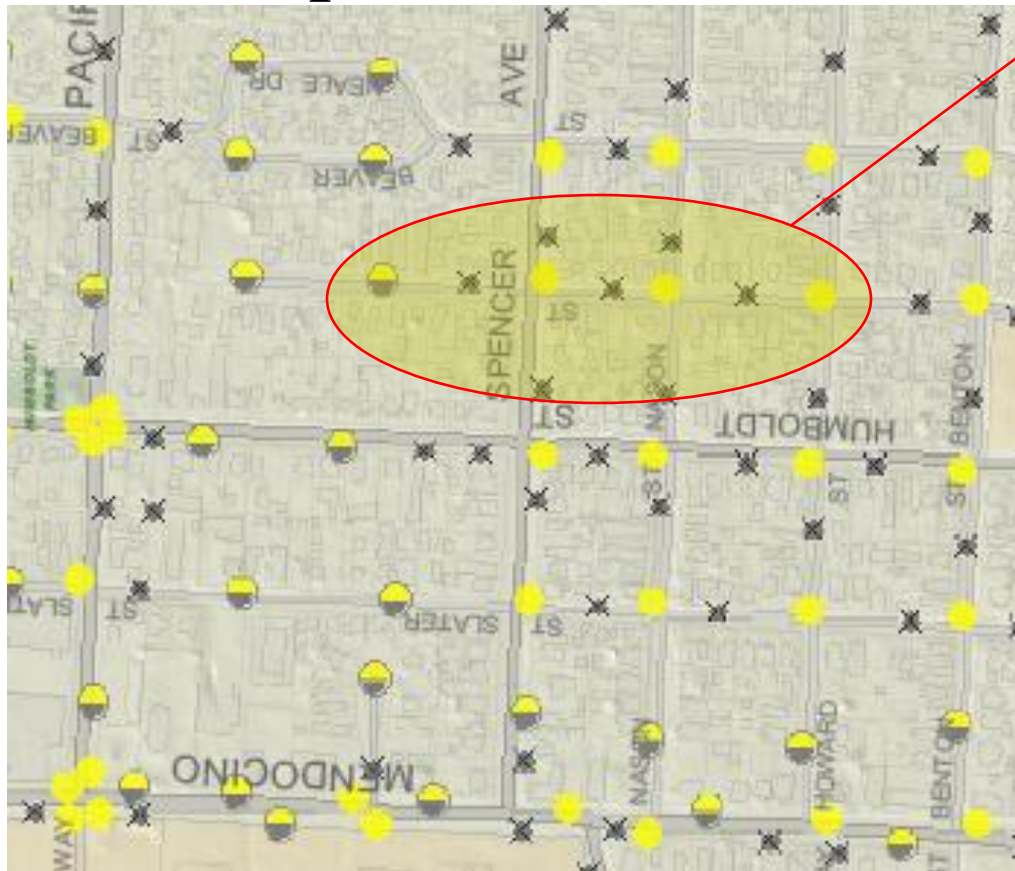


Junior College Neighborhood



Junior College Neighborhood

□ Detailed snapshot



On-Street
Example

Streetlights

- On
- Timer
- × Turn Off



On-Street Example

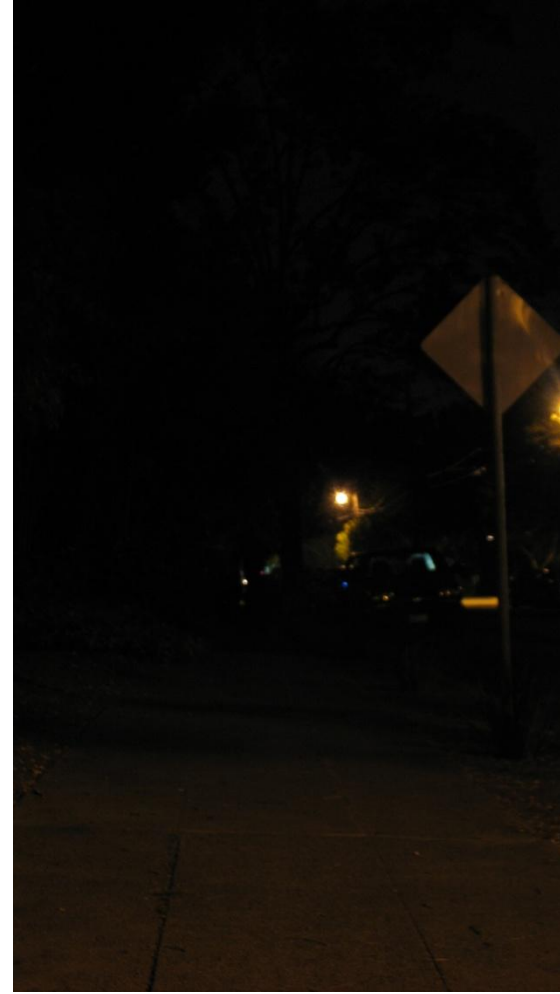
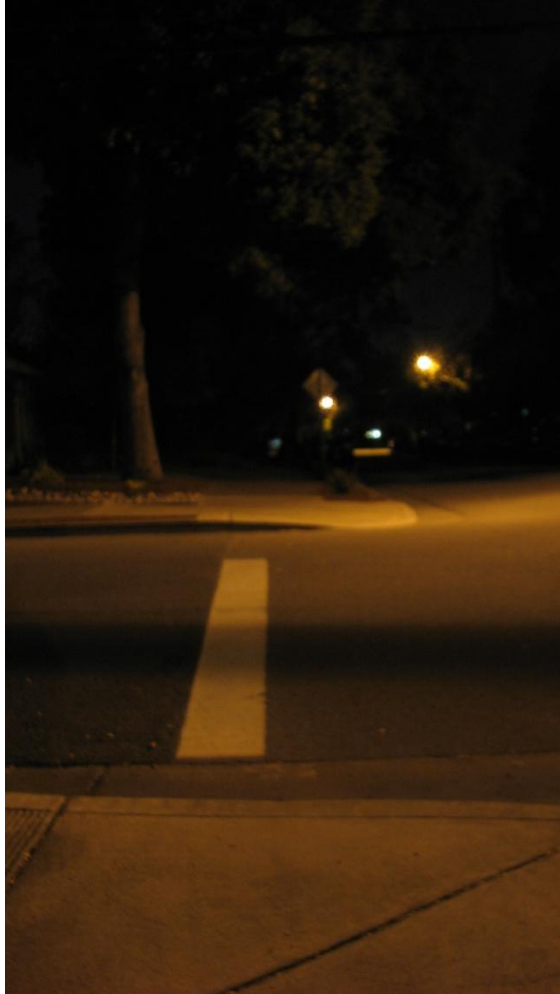
Orchard Street (Nason to Neale)





On-Street Example

Orchard Street (Nason to Neale)



Challenges

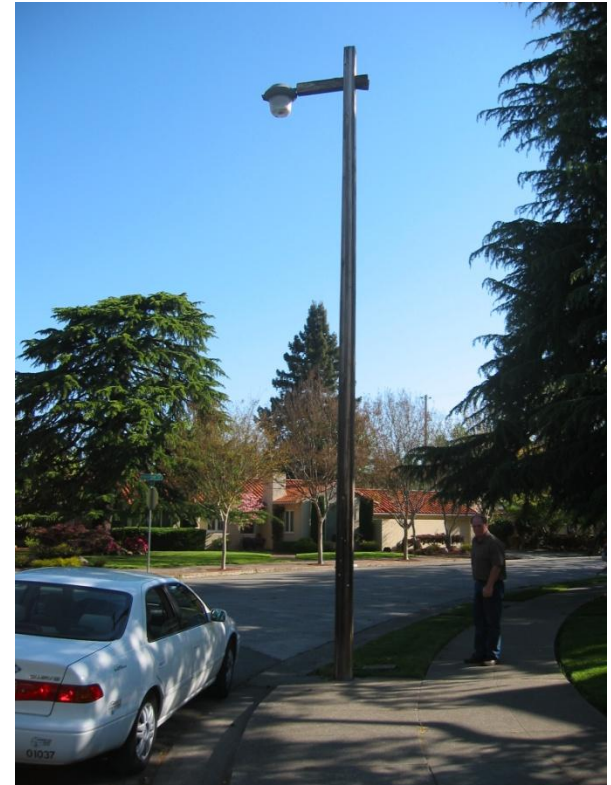
- ❑ Program conflicts with current City policy for street lighting in new developments.
- ❑ Various styles of street lights; some can be modified, others cannot.
- ❑ Street lights in series must all be applied similarly.





Street Light Styles

- Easily modified



Street Light Styles

- Difficult to Modify



Other Street Light Examples

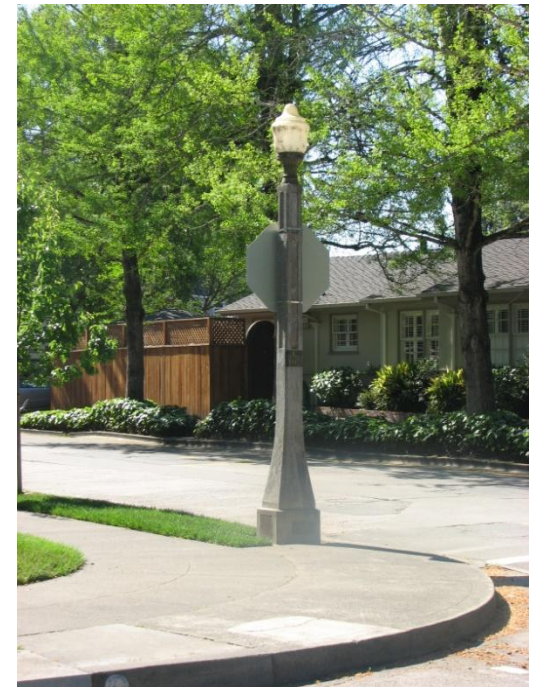
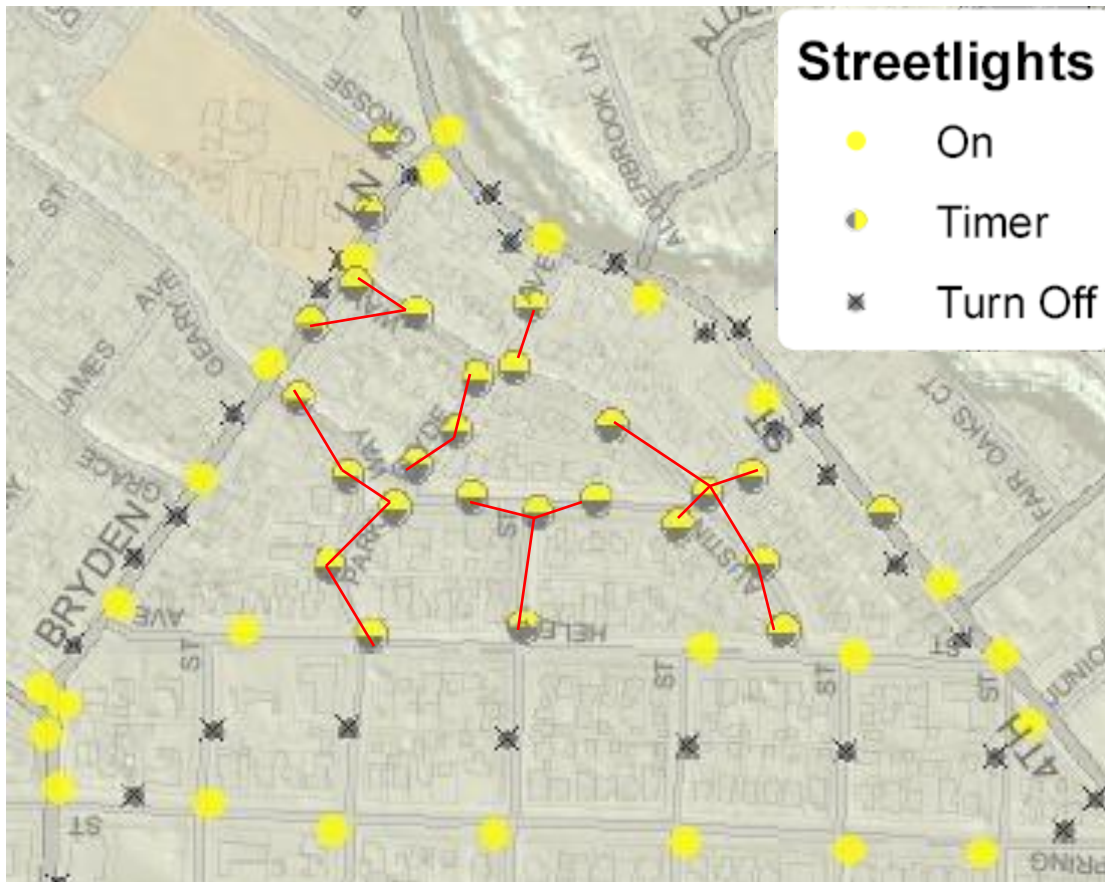




East JC / Proctor Terrace

- Street lights are connected in series of 3 or more lights in a string with one photocell
- Options
 - Leave all lights on
 - Exchange existing photocells with programmable photocells for all lights in string
 - Disconnect the conductors to specific lights

East JC / Proctor Terrace





Additional Ideas

Install Cut-Off Lighting

From:



To:



Install LED Lighting

(still not a proven technology)





Other Benefits

- Dark Sky Association
- Kenwood Observatory group
- Environmental effects
 - Effects on native animals
- Light pollution