

CITY OF SANTA ROSA
CLIMATE ACTION SUBCOMMITTEE

TO: CLIMATE ACTION SUBCOMMITTEE
FROM: MICHAEL VANMIDDE, ASSOCIATE TRAFFIC ENGINEER
TRANSPORTATION AND PUBLIC WORKS
SUBJECT: UPDATE ON CONVERTING STREETLIGHTS TO LED
AGENDA ACTION: FOR INFORMATION ONLY. NO ACTION REQUIRED.

RECOMMENDATION

The Traffic Engineering Division will present an update on the LED conversion for streetlights. This item is being provided for informational purposes.

EXECUTIVE SUMMARY

Most of the streetlights in Santa Rosa have been converted to LEDs, resulting in a savings of 2,967 metric tons of greenhouse gases annually. An additional 1,300 streetlights can be converted to LED which would result in an additional 287 metric tons of greenhouse gas reduction annually. This work relates to the Tier 1 Council Goal related to Climate Change.

BACKGROUND

In 2003 City turned off 1,500 streetlights in response to necessary budget reductions and increasing energy costs. The streetlights that were deenergized were typically on multi-lane arterial streets. In 2009 Santa Rosa was awarded a \$250,000 American Recovery and Reinvestment Act (ARRA) grant from the Department of Energy to retrofit High Pressure Sodium (HPS) streetlights at intersections with induction lamps. Approximately 1,000 induction lamps were installed with energy savings around 15%. Budget reductions led City Council to approve a Streetlight Reduction Program aimed at reducing energy costs. From 2009-2013 approximately 4,600 streetlights were either turned off or placed on timers. The timers turned off the streetlights from 12:00 AM to 5:30 AM and reduced energy costs of each fixture by half. The streetlight reduction program affected all areas of Santa Rosa and all street types. The program was poorly received by many in the community and the City received numerous complaints and calls regarding concerns over deenergized lights. In 2010 Santa Rosa set up a streetlight demonstration to compare energy efficient LED luminaires in the field. Over the following 4 years technology improved and in 2014, LED streetlights were adopted by the City of Santa Rosa as well as many other jurisdictions.

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ANALYSIS

To date Council has funded \$3M to convert approximately 13,700 streetlights to LED. All streetlights that had been turned off or put on timers have been turned on with LED fixtures. The work has been completed by the Electrical Section of the Transportation and Public Works Department.

The annual savings in energy is just over 4,000,000 kilowatt-hours, or approximately 2,967 metric tons of greenhouse gas emissions. The LED streetlights that have been installed use on average 34% of the energy that the previous streetlights used. The phased approach to the LED streetlight program has allowed the City to realize improvements in technology that have resulted in lower costs and more efficient fixtures as the program has progressed.

There are approximately 1,300 streetlights that need to be converted to LED. The total cost to complete the conversion to LED is approximately \$600,000. The expected annual energy savings is 400,000kWh or 287 metric tons of GHG. This represents an energy savings of 70%. The last streetlights left to be converted are a variety of decorative fixtures which are spread throughout the City.

FISCAL IMPACT

The LED streetlight conversion program has resulted in the annual energy savings of approximately \$500,000.

NOTIFICATION

Not applicable.

CONTACT

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