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City Manager's Office

# Memorandum

**TO:** HONORABLE MAYOR AND  
CITY COUNCIL

**FROM:** Hans F. Larsen

**SUBJECT: LED STREETLIGHT  
CONVERSION PROGRAM**

**DATE:** January 12, 2012

Approved

Date

1/12/12

## INFORMATION

The purpose of this memorandum is to update the Council on current plans to retrofit streetlights in San José. Consistent with the Green Vision, significant progress is being made to retrofit San José's streetlight system with "smart" energy-efficient lighting.

This improved lighting plan includes replacing "yellow" sodium vapor lights with "white" Light-Emitting Diode (LED) lights including an adaptive control system to provide for full lighting in early evenings and with the opportunity to dim lighting levels during late evenings. The dimmed lighting levels will meet or exceed the illumination levels provided by the City's current "yellow" lighting. San José has approximately 62,000 streetlights that have an annual energy cost of about \$4,000,000.

The new adaptive "smart" LED lighting design standards were approved by the Council in February 2011 and have the benefits of:

- Reducing street light energy costs by 60%
- Improving lighting quality, visibility and street safety
- Extending maintenance cycle for bulb replacement from 3 to 10 years
- Providing real-time communications for streetlight outages
- Eliminating the use of hazardous materials contained in sodium vapor lights
- Preserving the night sky in late evenings for astronomical research by Lick Observatory.

Attachment A describes the locations where new LED street lights are being deployed. The City has already installed 315 LED lights through a series of demonstration projects. Over the next six months, approximately 2,100 streetlights will be retrofitted using federal grant funds in the amount of \$2,900,000 provided through the American Recovery and Reinvestment Act (ARRA) and Community Development Block Grant (CDBG) programs. In addition, approximately 1,100 lights are planned to be retrofitted as part of various public and private projects. In total, about

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3,500 LED lights are planned for installation within the next few years, representing the conversion of approximately 6% of the City's streetlights.

For the 2012 federal grant funded conversion program, streetlight locations were selected to optimize energy reduction and to maximize City operating cost savings. The targeted lights are along major street corridors having the highest wattage for which replacement LED lights are available. Additionally, lighting conversion locations were selected based on various other factors related to meeting grant requirements, enhancing safety and visibility for active pedestrian areas and retail districts, and providing Citywide geographical distribution.

San José has emerged as a worldwide leader in the development and deployment of new technology for adaptive low energy streetlights. Facilitated by the Green Vision and the City Council's Demonstration Partnership Policy, the world's first adaptive streetlight was installed at the City Hall frontage in 2008. Since then, the City has worked with the street lighting industry and other stakeholders to lead efforts related to advancing technology development, establishing design standards, and creating with PG&E a pilot energy billing program for adaptive (dimnable) LED lights. The City is currently pursuing efforts with the Bay Area Climate Collaborative on financing solutions to implement an expanded conversion of San José streetlights. A further progress report on the City's LED Streetlight Conversion Program is scheduled for discussion with the Transportation and Environment Committee in April 2012.

/s/

HANS F. LARSEN  
Director of Transportation

For questions, please contact Laura Stuchinsky, LED Lighting Program Manager, at 975-3226 or Amy Olay, LED Lighting Project Delivery Manager, at 975-3283.

Attachment

## San José LED Streetlight Locations

### Demonstration Pilot Projects (315 lights)

Location	Project Limits	CD
Various Locations	San Jose City Hall frontage, North San José; East San José, 24 <sup>th</sup> Street	3, 4, 5

### 2012 Grant Funded Conversion Program (Approx. 2,100 lights)

Location	Project Limits	CD
Airport Parkway	Airport Boulevard to Bering Drive	3, 4
Almaden Avenue	280 to Alma Avenue	3
Alum Rock Avenue	Capitol Avenue to Manning Avenue	5
Blossom Hill Road	Meridian Avenue to Santa Teresa Boulevard	9, 10
Branham Lane	Almaden Road to Pearl Avenue	9
Campbell Avenue	Hamilton Avenue to Fallbrook Avenue	1
Capitol Avenue	680 to Mabury Road	4
Capitol Avenue	Mabury Road to Capitol Expressway	4, 5
Cottle Road	Endicott Boulevard to Santa Teresa Boulevard	2
Hamilton Avenue	Saratoga Avenue to Atherton Avenue	1
Hillsdale Avenue	Bascom Avenue to Manda Drive	9
King Road	Alum Rock Avenue to Tully Road	5, 7, 8
Monterey Road	Blossom Hill Road to Bernal Road	2
Ocala Avenue	Capitol Expressway to Daytona Drive	5, 8
Quimby Road	Tully Road to Capitol Expressway	8
River Oaks Parkway	Guadalupe River to Montague Expressway	4
Saratoga Avenue	280 to Quito Road	1
Santa Teresa Boulevard	85 to Blossom Hill Road	10
Skyport Drive	Guadalupe Parkway to First Street	3
Silver Creek Valley Road	101 to Hellyer Avenue	2
Southwest Expressway	Meridian Avenue to Bascom Avenue	6
Story Road	Senter Road to White Road	5, 7
Tully Road	Seventh Street to Capitol Expressway	5, 7, 8
Vine Avenue	280 to Alma Avenue	3
Winchester Boulevard	Stevens Creek Boulevard to Payne Avenue	1, 6

### Other Active Projects (Approx. 1,100 lights)

Location	Project Limits	CD
Alum Rock Avenue	101 to Capitol Avenue	3, 5
Autumn Street	UPRR to St. John Street	3
Capitol Expressway	Capitol Avenue to Tully Road	5, 8
Minidoka Avenue	Warm Springs Drive to Gay Avenue	5
San Fernando Street	Cahill Street to 10 <sup>th</sup> Street	3
St. John Street	Almaden Avenue to Market Street	3
The Alameda	Stockton Avenue to Fremont Avenue	6
280/880/Stevens Creek Interchange	S. Baywood Avenue and Wainwright Avenue	1, 6
101/Tully Interchange	Zachary Way and Lanai Avenue	7
101/Yerba Buena Interchange	101/Yerba Buena Undercrossing	2, 8
101/Capitol Expressway Interchange	Rio de Plaza and east of McLaughlin	7
Misc. Private Development Projects	Various	2, 3, 4