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City Manager's Office

Memorandum

TO: HONORABLE MAYOR AND
CITY COUNCIL

FROM: Hans F. Larsen

**SUBJECT: STREETLIGHT OUTAGE
STATUS REPORT**

DATE: November 7, 2013

Approved

Date

11/8/13

INFORMATION

This memorandum provides a status report to the City Council on streetlight outages and streetlight wire theft. The Department of Transportation typically reports to the City Council on streetlights at this time of year because public awareness about outages rises when daylight savings time ends and nights are longer. In addition, with the rising incidence of wire theft, it is important for the City Council and community to be aware of current outage levels, repair time frames, efforts to mitigate the incidence of stolen wire, and how to report outages for repair.

Streetlight System, Outages and Repairs

The City has an extensive streetlight system with the following characteristics:

- 63,000 streetlights Citywide
- 900 streetlights shut off in 2009 were re-activated in spring 2013
- 1,968 streetlight outages as of October 1, 2013, representing about 3% of all streetlights
- 43% of current outages due to wire theft, 43% electrical malfunction, 14% bulb burnout
- 15,091 outages repaired in 2012-13, a 30% increase over past averages (11,000-12,000)

Over 80% of all streetlight outages repaired in 2012-13 were caused by burned out bulbs. Normal repair times for burned out bulbs are 7 to 14 days. In 2012-13, 70% of all outages were repaired within 14 days. With the rising incidence of wire theft and an aging streetlight system more resources are being diverted to these types of outages, extending repair timeframes in 2013-14 to 50% within 14 days. Although most outages are caused by burned out bulbs, the majority of the existing backlog of outages at any one point in time, particularly recently, is due to wire theft and electrical malfunctions. Repairing complex outages requires significantly more resources and time, and the expertise of an electrician. As a result of the current volume of complex outages, and the limited availability of electrical resources, there is a need to queue repairs, resulting in extended repair timeframes of four to six months.

Incidence of Stolen Streetlight Wire Continues to Rise

As previously reported to the City Council, theft of streetlight wire has been a significant problem over the past few years, and it continues to rise. At this time last year, the incidence of stolen streetlight wire was occurring at a rate of approximately 14 to 16 new locations reported or discovered per month. Data for all of 2012-13 indicates 391 new incidents of wire theft, at an average of 32 per month, twice the rate of occurrence in 2011-12. In the 1st quarter of 2013-14, 111 incidents of stolen wire have occurred, at a rate of 37 per month. Current available resources (one dedicated stolen wire repair crew) enable the repair of approximately 16 to 20 locations per month, which is causing an increase in the backlog of needed repairs and extending the length of time for repairs.

In an effort to reduce the incidence of stolen wire, DOT has coordinated with the Police Department on a number of measures. Staff continues to track the locations of the wire theft incidents to determine if there is any predictable pattern or concentrated areas of occurrence, and has communicated this information to the Police Department. A field demonstration video was prepared for Police Department briefings to provide patrol officers with information on what to look for in terms of activity around streetlights and the electrical service wire boxes. To date, there are at least four confirmed cases where arrests have been made. The Police Department continues to explore approaches to deter and enforce against this illegal activity, including coordinating work with the Highway Patrol. It is important that the community continue to be a partner in keeping the streetlights operational by not only reporting outages, but also reporting any suspicious activity around streetlights by non-City personnel immediately to 911.

On the infrastructure side, DOT is exploring and implementing proactive and corrective deterrents to make it more difficult to access and steal streetlight wire out of pull boxes as resources permit. A limited number of locked metal pull box lids have been installed in areas identified as more prone to theft, and they have proven to be an effective deterrent. However, with the sheer inventory of pull boxes (almost 40,000 citywide) and the cost to retrofit the lids, DOT has had to be extremely targeted in retrofitting pull box lids. In addition, all streetlight pull boxes that have had wire stolen have been sealed with an epoxy treatment to make access to the wire much more difficult. Re-occurrence after an epoxy seal treatment has been extremely low.

Even with these efforts, along with continued focus on timely repairs, the problem is increasing. Currently, there are 244 known locations where the wire has been stolen and the streetlights are out. With no additional resources, response times to repair new locations subjected to stolen wire is six months to one year. At a repair rate of 20 locations per month per crew, it would take three dedicated crews one year to eliminate the backlog and keep up with new occurrences, if the current incident rate continues. Two crews would then be needed on an ongoing basis to keep up with new repairs. A one-time investment of \$500,000 and an ongoing investment of \$750,000 annually is needed to eliminate the current backlog, and to keep up with the problem. Given the effectiveness of metal locking lids, a targeted installation in about 20% of the City, where wire theft has been a particular problem, should also be considered. DOT is coordinating with the City Manager's Budget Office on funding options to support the deterrence and repair of wire theft, and anticipates bringing forward recommendations prior to the Mid-Year Budget Review.

Entering Peak Season for Community Awareness of Streetlight Outages

With daylight savings time having ended, the City has entered the period of the year when requests to repair streetlight outages are at their peak. Throughout the late fall and winter, with longer nights, DOT typically experiences an increase in repair requests in the 25% range due to heightened public awareness of streetlight outages. The timeframe for all types of repairs typically extend during this time of year because no additional resources have been available to respond to the surge in repair requests. To avoid further growth and reduce the backlog of outages, DOT is evaluating potential funding allocations to increase repair capacity.

Finally, it is important for the City Council and the community to be aware that repairs are made primarily in response to public notifications. As a result, DOT relies on the community to report outages as soon as possible after they are noticed as follows:

To report streetlight outages to DOT (include pole #, location, and contact info), leave a voice mail message at (408) 794-1903 or email street.lights@sanjoseca.gov

/s/
HANS F. LARSEN
Director of Transportation

For questions, please contact Jim Ortbal, Assistant Director at (408) 535-3845.