



## TRUCKEE TAHOE AIRPORT DISTRICT BOARD OF DIRECTOR STAFF REPORT

**AGENDA TITLE:** Ongoing LED retrofit  
**MEETING DATE:** January, 24 2018  
**PREPARED BY:** Mitch Montgomery, Facility's Maintenance Manager

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**RECOMMENDED ACTION:** No Board action is required at this time.

**DISCUSSION:** LED lighting retro fit began in May of 2015 with Dave Hoffman purchasing a fixture to test in the maintenance shop for better illumination and some energy savings. Dave then followed with the purchase of 27 more fixtures in early December of 2015 to complete the shop retrofit. The fixtures were installed by staff as time allowed over the months of December and January. The original fixtures were 220-watt vs the new (and brighter) fixtures at 74 watts. Calculating with a conservative base of 10 hours per day, 5 days per week we would see a savings of 10,629 kwh per year at 15.9 cents per kwh, which equates to \$1,690 per year, paying for the fixtures in 5 years. Although there are many variables with equipment use in the shop the trend for the power use the next year shows a savings.

Beginning in late May of 2016 Dave and staff began the outdoor LED retrofit with the purchase and installation of some test fixtures as time allowed. In July 2016 TTAD was provided with a proposal by Graybar Electric for all hangar rows, the warehouse and garage, showing cost vs savings over time and including an energy savings rebate from the PUD. After the purchase and installation of the last test fixture in May of 2017 Dave asked me (Mitch) to move forward with the project. After working out the lighting control and other options with Graybar, adding Hangar 1 interior lights and securing bids on the installation, we ordered the fixtures on August 8, 2017. We received the last parts by mid November 2017. The total number was 116 fixtures plus 54

mounting arms. Par Electric did the installation. We submitted the PUD rebate application late November 2017 and received a check for \$27,647.79 shortly after.

Note: Much of the savings on the outdoor fixtures is due to them operating at 50% until activated by motion sensors. This is also a nice security feature E.g. when the lights are on 100% someone or something (Mr. Bear) is around. This also cuts down on light pollution. We have a few bugs to work out but the look of the airport buildings is very subdued at night.

**FISCAL IMPACT:** Shop retro fit initial cost \$8,461, savings of power \$1,690 per year paying off in 5 years. We have had no failures after three years and these lights have a rating of L70 (70% light output) at 100,000 hours. They could have a useful life of more than 30 years and are warranted for 5 years.

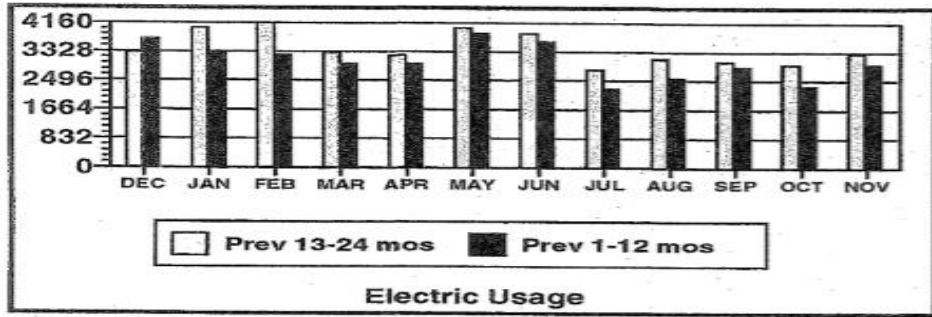
The fiscal impact for all the outside lighting, plus the addition of Hangar 1 interior lights is well represented in the PUD rebate and payback worksheet (below), provided by the PUD. Fixtures at \$70,936, Installation at \$11,980.

<b>Building Totals</b>					
<b>Equipment</b>	<b>Total Cost to Install (\$)</b>	<b>Total Annualized Savings (\$)</b>	<b>Payback (Yrs)</b>	<b>Estimated TDPUD Rebate (\$)</b>	<b>Payback w/ TDPUD Incentive Estimate (Yrs)</b>
<b>Lighting Retrofit</b>	\$ 82,943.36	\$ 17,330.96	4.8	\$27,647.79	3.21

**PUBLIC COMMUNICATIONS:** Staff will post as part of our green awareness program on the TTAD website. And other public media outlets

**ATTACHMENTS:** See Page three

TTAD  
shop  
electric  
service  
through  
11/16/17



Electric	# Days	Total Usage	Avg Usage/Day	Cost/Day
Current	28	2960	106	17.49
Last Month	28	2320	83	13.84
One Year Ago	33	3280	99	16.38

