



## ROADWAY LIGHTING

# Olowalu Tunnel

Running parallel to the Pacific Ocean, the Olowalu Tunnel is a 349 foot (106 m) long highway tunnel bored directly out of the cliff side. It is part of the scenic, coastal Honoapiilani Highway 30 that encircles the western half of the island of Maui, Hawaii and has the distinction of being the oldest highway tunnel on the islands.

### Challenges

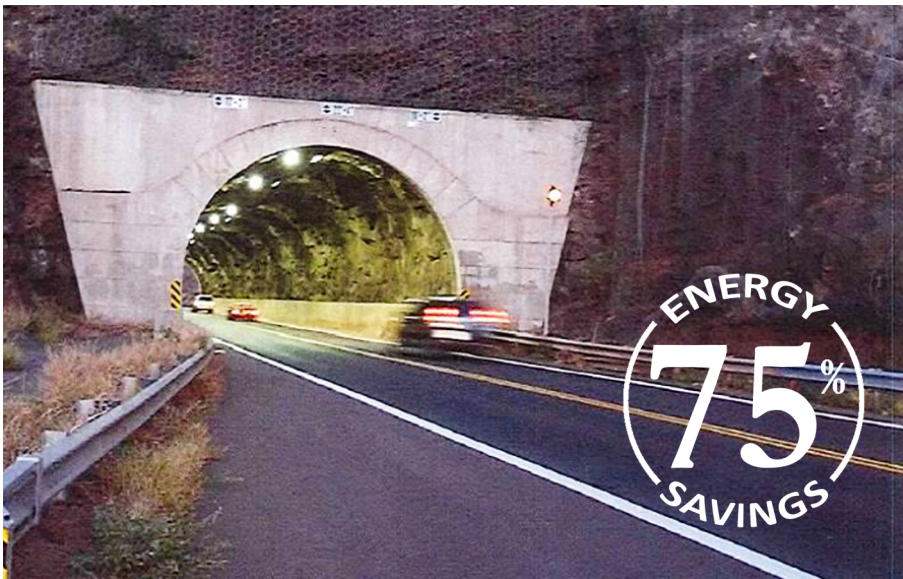
Originally, the tunnel was lit by twenty-two, 400W Metal Halide flood lights that were powered by an inefficient system of solar panels, batteries and an inverter to convert the AC to DC power. At one point thieves had disconnected and stolen the solar panels leaving the tunnel unlit for several years. The Hawaii Department of Transportation wanted to re-light the tunnel and use LED lighting to reduce the solar generation capacity needed. They also needed to have fixtures that would be resistant to the harsh seaside environment where they run a constant maintenance battle against rust and corrosion.

## Solutions

ActiveLED® was able to provide a 1 for 1 replacement of the existing 400W Metal Halide fixtures with twenty-two, 100W ActiveLED FL Series Flood Lights. Each fixture was mounted as a pair using a specialty bracket designed specifically for this application. Two features that were particularly appealing to the client were the ability to operate the fixtures directly from the solar generated 48V DC that eliminated the need for a power inverter, and that the fixtures included a marine grade housing that wouldn't be affected by the coastal environment.

## Results

The ActiveLED® fixtures provide a strong clean light throughout the tunnel at an energy savings of 75%. Due to the more efficient LED lighting, the solar lighting system required to operate the lights was cut in half which equates to less solar panels and batteries, and the elimination of the power converter previously needed to convert the DC to AC power. The State is also enthusiastic about the 10 year warranty, ensuring that they shouldn't need to worry about maintaining or replacing the fixtures for more than a decade.



ActiveLED®, Inc., established in 2007, is an innovator of solid-state technology and manufacturer of commercial and industrial LED lighting fixtures. ActiveLED® is at the forefront of LED lighting technology and has revolutionized the standards of LED lighting to deliver better, cooler, longer-lasting lights that use a fraction of the Watts compared to other fixtures.

ActiveLED® is based in the United States with offices in the United Kingdom, France, Japan, and Singapore.

## Project Summary

### Customer:

State of Hawaii Department of Transportation

### Application:

Provide energy saving LED Lighting for the Olowalu Tunnel in a harsh coastal environment and powered by solar.

### Lighting Product:

ActiveLED® FL Series Flood Lights

### Before:

22 Metal Halide fixtures @ 400 Watts per fixture. Total = 8,800 Watts

### After:

22 ActiveLED® FL Series Flood Lights @ 100 Watts per fixture. Total = 2,200 Watts

### Results:

- Reduction in Watts: 6,600 Watts
- Reduction in size of solar lighting system and number of batteries required to power the fixtures
- Marine grade fixture material resistant to rust and corrosion



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