

## Case study

# Cuilfail Tunnel LED Retrofit Installation.

**Client:** East Sussex Highways

## Background

The Cuilfail Tunnel is a single carriageway tunnel carrying the A26 in East Sussex and was opened in 1980. The original lighting was refurbished in 2009 and at the time LED lighting technology for street lighting was in its infancy, let alone the high-powered requirement for tunnel lighting. The original installation was undertaken by another luminaire manufacturer and used fluorescent luminaires for night and day lighting, boost lighting at the entrances used HPS lamps. Different demands for the boost lighting was accommodated by switching lamps on and off with six boost lighting stages. The luminaire bodies were in excellent condition despite their age.

Since the original refurbishment, the advances in LED technology have been on an exponential scale with massive improvements in thermal management. This has allowed luminaires to become increasingly more compact and efficient. Inevitably with these developments, and the technology becoming more commonplace, the cost has also reduced.



## Solution

TRT has developed an LED retrofit solution which is designed to completely replace the lamp and gear in tunnel HPS luminaires. This allows the tunnel installation to be converted to modern highly efficient LED lighting without the huge prohibitive expense of a complete lighting re-fit. The LED technology used in the retrofit units is market leading to ensure that both the light and lifetime are the best possible when mounted inside an existing luminaire housing.

A tunnel lighting system lends itself to being retrofitted with LED luminaires when the existing luminaire body is still in good condition, the complexities and interconnected infrastructure in a tunnel mean that a lighting upgrade with new luminaires is a significant undertaking and the associated cost often outweighs any energy saving costs and this is where the retrofit solution comes into its own.

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We were really impressed with the LED lighting retrofit solution and end to end project delivery provided by TRT.

The aim was to reduce the carbon footprint and upgrade the lighting infrastructure in the most efficient way with minimal impact to those who use the tunnel and together we succeeded in doing both.

**Richard Hammond,**  
Structures Manager, East Sussex Highways

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Whilst being fully DALI compatible, the drivers have been set to a basic switched control and are not dimmed in this installation. They are being turned on and off via the existing tunnel lighting control system, however the units are future proofed by being DALI compatible should the control system be upgraded in the future.


## Outcome

The installation was completed over five consecutive night closures by a two-man team, no specialist tools or training were required as the light engines were designed to be plug and play and used the same internal mounting points as the HPS lamp and gear.

The new LEDs reduce East Sussex's carbon footprint as they burn significantly cooler than the previous system and use less electricity each year.

The driving force behind the LED tunnel luminaire LED retrofit was to ensure that TRT could support and maintain existing tunnel lighting installations with HPS technology becoming obsolete. From this development TRT can offer variations of the retrofit suitable for mounting inside other luminaires including older luminaires that are no longer manufactured.

## For more information

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