



SIEMENS

Ingenuity for life

Case study

Reducing energy bills by up to 75% with Siemens Mobility's retrofit solution

Delivering cost, energy and carbon savings

Many traffic signals operating in the UK are still fitted with traditional, inefficient incandescent signal lamps, which as well as consuming large amounts of power, need to be regularly replaced.

Siemens Mobility has been involved in upgrade programmes for authorities nationwide retrofitting these signals with LED technology that is helping reduce carbon emissions, reduce power consumption, and extend the life of the equipment.

"Retrofit solutions are a cost-effective way to significantly reduce energy bills and future proof traffic signal installations against the expected sales ban of incandescent bulbs."

Cost efficient sustainable solution

Incorporating LED central light source (CLS) technology, our solution provides a long-term, cost-efficient and environmentally sound solution:

- Low power consumption with over 75% savings in carbon and energy

- Low maintenance
- Long-life performance
- Improved visibility in all weather and lighting conditions
- Enables existing infrastructure to be retained.

Fast and efficient process

Our installation teams simply replace each existing signal head door unit and incandescent optical assembly with a new LED CLS unit and then upgrade the system controller. Authorities' investment in the majority of their installed signal equipment is therefore retained, minimising waste and disposal issues and enhancing carbon savings.

"This is a fast and efficient process, with disruptive works kept to a minimum."

The complete solution – project payback

Many projects benefit from Salix Finance, which provides interest-free Government funding for improvement initiatives that deliver energy efficiencies, carbon emission reductions and lower energy bills. Funding is available for up to 50% of the project value and for traffic signal retrofit programmes, payback is calculated both on power and maintenance savings.

Working closely with local authorities, our consultancy team can offer guidance throughout the funding process, including working with Salix or developing a tailored, project-specific solution through our own Financial Services division, SFS.

"Projects benefit from a reduced payback period thanks to efficiencies in equipment and installation costs."

Benefits of Siemens Retrofit in the UK



Simple but effective

Easy installation – simple signal aspect swap out, retaining existing infrastructure investment



Future proof

- Compatible with Helios and Elite traffic signals
- Full lamp monitoring compatibility
- Future proof installations against Incandescent bulb obsolescence



Efficiency Savings

- Up to 75% operational cost and energy savings
- Low maintenance requirements and costs
- Improve your carbon footprint – Over 37,000 tonnes of CO₂ saved across 3 UK projects



Our retrofit solution has formed the basis of many upgrade programmes, including:

Transport for London

- 161 crossings and junctions retrofitted in just 3 months
- Covering 6,230 red amber and green signals, 950 regulatory box signs and 1,840 push buttons
- Further 26,800 signal aspects replaced at more than 900 sites
- Annual energy and maintenance savings of over £300,000.

Transport for Greater Manchester

- 52,000 incandescent signals upgraded across 1,800 sites
- c.£600,000 annual reduction in maintenance costs
- Monthly energy consumption down from 1,009MwHr to under 400MwHr
- Longer life LED units save around 30,000 standard bulbs annually
- Wait indicator lamps replaced at more than 500 sites
- In the first two years, over £1 million saving achieved.

East Sussex County Council

- 1,500 traditional halogen signal heads replaced with LED units
- Traffic controllers modified to allow new LED aspects to be monitored
- Contributes to more than 195 tonnes of annual CO₂ savings.

Swindon Borough Council

- Covering 64 junctions and crossing sites
- 400 incandescent lamps replaced with Helios LED LV Optic units
- 78% annual reduction in CO₂ forecast
- £25,000 annual cost saving forecast.

"We're always striving to improve our network, be more efficient and safer, and replacing the traditional bulbs in signals with LEDs has made a real difference. It's making our infrastructure greener, more sustainable and cheaper to run and not only that but as LEDs are more visible it is making our roads safer, which will help achieve our goal of no deaths or serious injuries on London's roads by 2041 and encourage more people to walk or cycle."

Glynn Barton, TfL
Director of Network Management

"To date the programme has saved over £1,000,000. Over the lifetime of the new lights, predicted savings are in excess of £5m in electricity charges, £1.5M of maintenance charges, and 37,000 tonnes of CO₂. It will remove the need to replace over 400,000 lamps. The project is a leading example of collaborative working to successfully deliver a programme to directly improve sustainability in the highway environment. This includes carbon footprint and CO₂ reduction, local environmental benefits and sustainable material use."

David Bland, TfGM Highways
Network Development Manager

Talk to us now about how our retrofit solutions can help save you money
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