

Live Labs 2

Decarbonising Streetlighting

The Right Light, The Right Place, The Right Time

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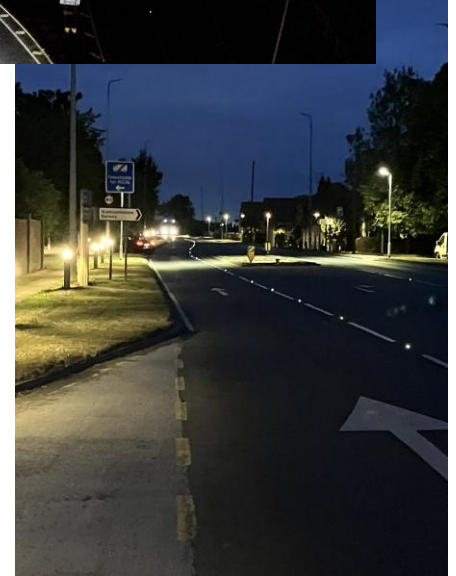
The Challenge

- Over 7.2m streetlights in the UK
- Over £1b cost per year
- Design guidance uses the word “must”
- Social Factors
- Breaking the dependance
- Is lighting really a safety mitigation?
- Where is the data?



The Solution

- Holistic visual design to replace streetlighting
- Use of enhance visual materials
- Low maintenance lighting specifically designed for pedestrians
- Creation of world first AI system to monitor driver safety in the dark
- Development of carbon and cost decision support tool



Pedestrian Lighting

- Mounting heights from 1m to 5m
- Specifically designed to only light footway and kerb edge
- Positive resident feedback
- Bringing about behaviour change



Road Safety

- Roundabouts have seen the greatest reductions in speed, with almost all roundabout arms (except one) recording a reduction.
- Every vehicle type has seen a decrease in speed.
- Night time collision rates down by a third

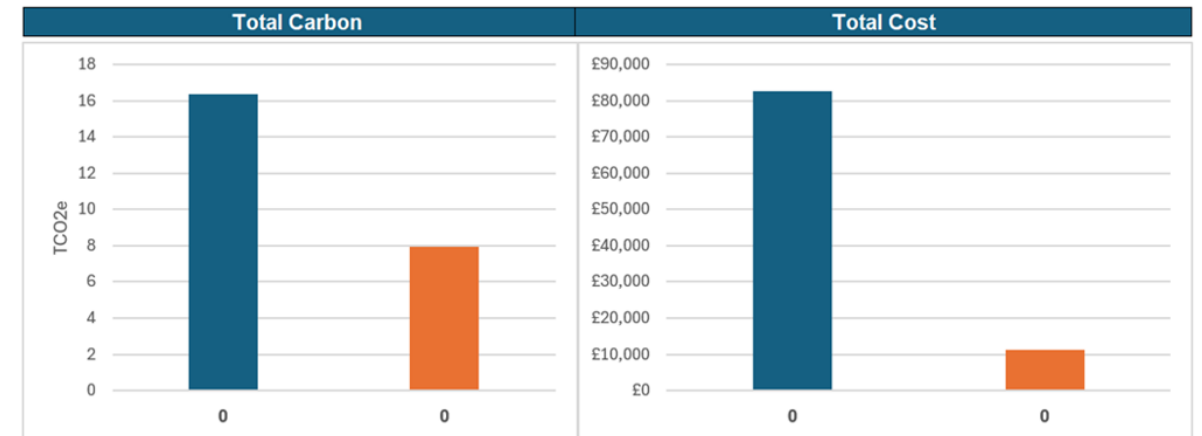
Camera	Monitoring Period	Articulated HGV		Bus		Car		Motorcycle		Total	
		Whole Day	Dark Periods	Whole Day	Dark Periods	Whole Day	Dark Periods	Whole Day	Dark Periods	Whole Day	Dark Periods
MP#1	Sep-24 (Before)	30.4	33.28	32.86	34.07	32.72	34.15	34.24	34.15	32.65	34.14
	Sep-25 (After)	27.76	31.4	31.95	32.49	32.21	32.49	31.65	30.59	32.12	32.47
	Change from Before	-8.86%	-5.65%	-2.77%	-7.75%	-1.56%	-4.86%	-7.56%	-10.42%	-1.62%	-4.89%



Savings

- East Riding test sites show £1.6m saving over 40 years, £1.1m saving over first ten years
- Wider rollout across East Riding – 2,500 columns with estimated £6m saving across revenue and capital
- East Riding Sites saved 160 tons CO₂ over the next ten years
- 810 proposed 10mtr columns to remove in East Riding will save 400 tons CO₂ over next ten years

Solutions	Unit	Existing 10mtr Columns	Live Labs Replacement	% change of Live Labs Replacement , compared to Existing 10mtr Columns
Appraisal period	Years	40	40	
Total Cost of the appraisal period	£	£4,843,897	£1,528,166	-68%
Cost per year	£/Year	£121,097	£38,204	-68%



Outcomes

- Saving of **£1.2m** on East Riding test sites
- Carbon saving of **120t** over the next ten years
- Reduction in driver speeds up to **10%**
- Near misses reduced by **12%**
- Collision rates down by **one third**

Overall				
Solutions	Unit	Existing	Proposed	% change of Proposed , compared to
Appraisal period	Years	40	40	
Total Carbon of the appraisal period	TCO2e	53.84	29.70	-45%
Carbon per year	TCO2e/year	1.35	0.74	-45%
Total Cost of the appraisal period	£	£322,791	£101,146	-69%
Cost per year	£/Year	£8,070	£2,529	-69%



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VALUING THE ENVIRONMENT



De-Risking

- Road Safety
- Carbon
- Cost
- Supporting Reports



Over to You

- 6% of East Riding stock being replaced with new methodology
- Immediately scalable
- Could save the UK over half a million streetlights
- Three councils already installing sites
- We can help!

