Live Labs 2
Decarbonising Streetlighting

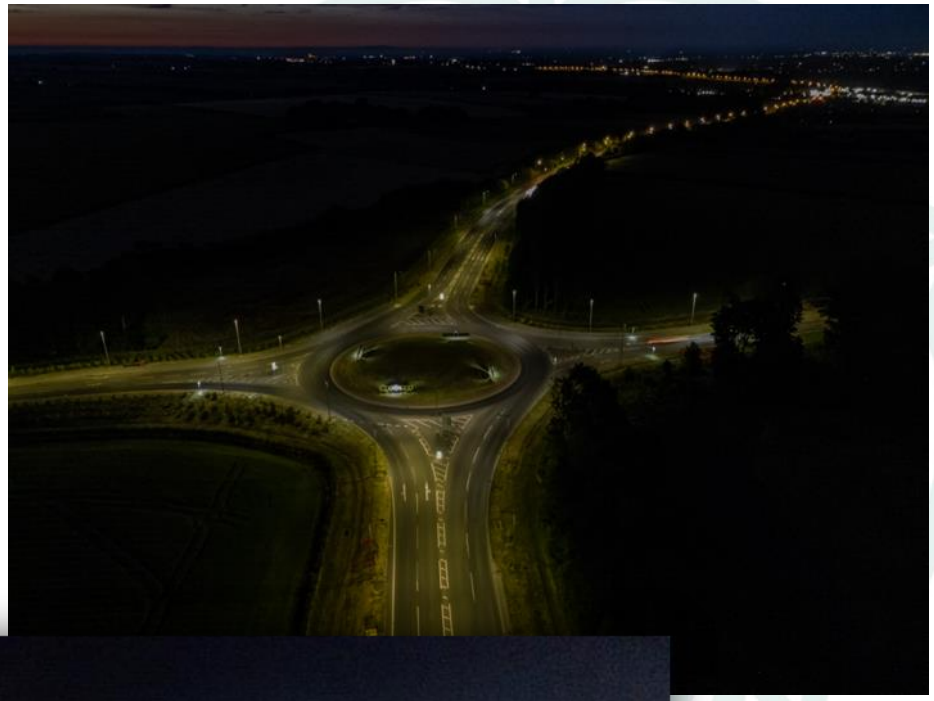
The Right Light, The Right Place, The Right Time

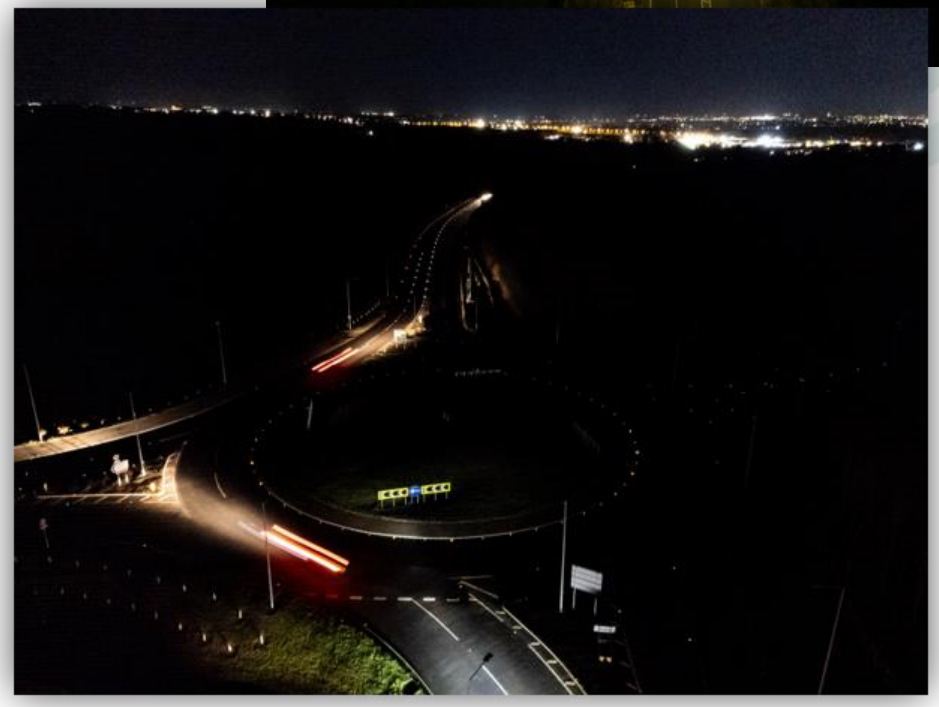
Karl Rourke
Project Manager
LL2er@eastriding.gov.uk

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Project Overview

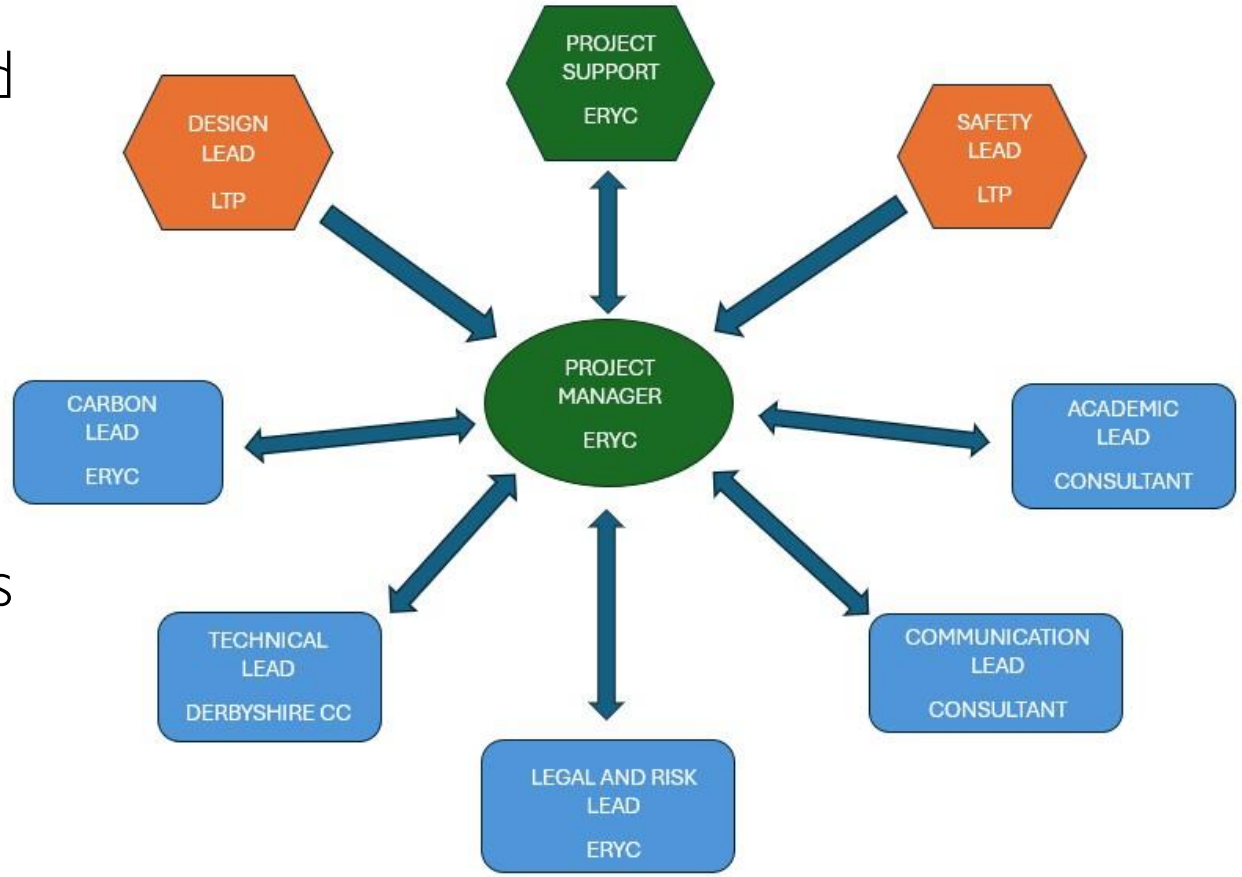
- Decarbonising highway visual environment
- Focus on A-Road and bypass routes
- Conflict Zones
- New lighting for pedestrian use
- Use of alternative equipment instead of lighting
- 22 sites in East Riding / 7 confirmed partner sites





Team Structure

- Multi-authority project led by ERYC and delivered in house
- Project manager split across “day job” and LL2
- Specific areas of specialism
- Innovation in every work stream
- Workstreams with specific project tasks led by specialists
- Working group leaders delivering LL2 work alongside substantive roles



Multi Disciplinary Collaboration

- Shared vision across the project team
  - Constructive check & challenge
- Bringing together specialists from a range of highways and non highways sectors
- Able to communicate project objectives across a range of sectors
- Cross sector input for successful project delivery, not just a street lighting project
- Breaking down silos and collaborating under core project principles



Test Bed Installations

- Over 80Km white lining
- Over 5000 solar illuminated road studs
- 143 square metres of signage replaced
- Pedestrian Lighting for footways
- VAS installed at 40mph point on high-speed approaches



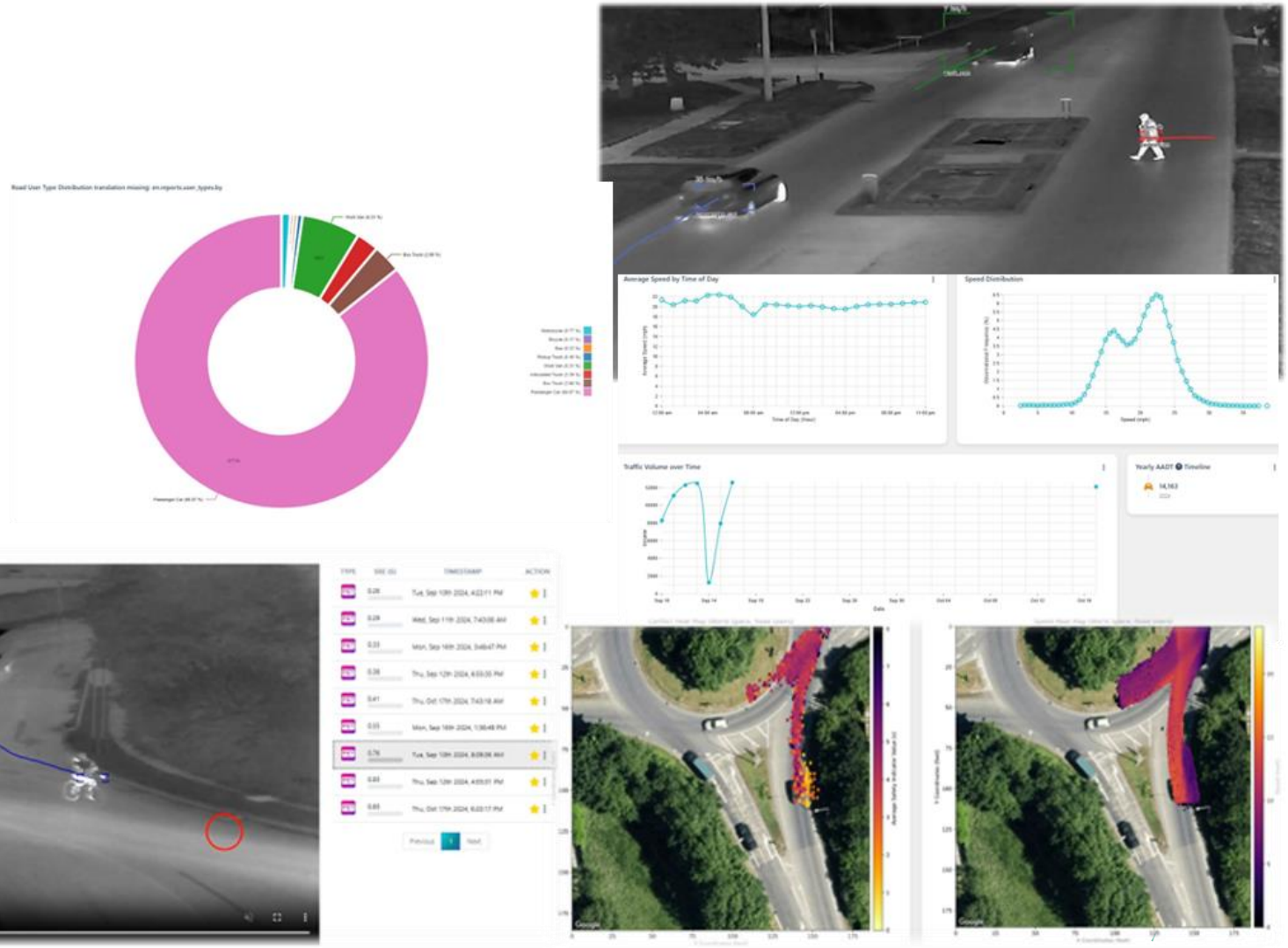
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Project Results

- Road Safety
- Carbon
- Cost
- Supporting Reports

AI Development

- Driver behaviour monitoring using thermal imaging
- Comparison from lit baseline to unlit roads
- Real time system running for over a year



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Road Safety

- Roundabouts have seen the greatest reductions in speed, with almost all roundabout arms (except one) recording a reduction.
- In contrast, 60mph single carriageway roads have seen the greatest increase in speed, at 7.65mph and 1.26mph, respectively.

		Change in Dark Mean Speeds (mph)		
Typology	**Sites**	**Before**	**After**	**Change**
40mph Dual C/Way Link with Ped & Cycle use	A1033 Raich Carter Way - MP#1	34.14	32.47	-1.67
	A164 Green Lane CONTROL - MP#2	36.44	35.27	-1.17
60mph Single C/Way Link	A164 Humber Bridge Approach - MP#14	50.04	57.69	7.65
60mph Single C/Way T Junction	A1079 Cliffe Road - MP#19	40.21	41.47	1.26
4-Arm Roundabout 60mph Long Flared Entry Leg	A164 Riplingham Road Rbt - MP#3	22.41	21.25	-1.16
	A164 Riplingham Road Rbt - MP#5	20.57	18.74	-1.83
4-arm Roundabout 60mph Short Flared Entry Leg	A164 Swanland Rbt - MP#10	19.11	19.05	-0.06
	A1079 Market Weighton CONTROL - MP#15	18.44	18.39	-0.05
4-Arm Roundabout 40mph Entry Leg	A164 Riplingham Road Rbt - MP#6	22.53	22.33	-0.20
	A164 Swanland Rbt - MP#11	19.48	20.05	0.57
	A164 Swanland Rbt - MP#13	20.61	20.31	-0.30
4-Arm Roundabout 30mph Entry Leg	A164 Riplingham Road Rbt - MP#4	19.37	17.10	-2.27
3-Arm Roundabout 40mph Entry Leg	Swanland Dale Rbt - MP#8	19.51	18.94	-0.57
	Swanland Dale Rbt - MP#9	23.91	22.60	-1.31

Road Safety

- There has been an overall decrease in 'dark' vehicle speeds of 4.89% on Raich Carter Way.
- Motorcycles have seen the greatest decrease in 'dark' period speeds of 10.42%.
- Every vehicle type has seen a decrease in speed.
- Whole day speeds have also reduced, but dark period speeds have generally reduced by a higher margin.

		Articulated HGV		Bus		Car		Motorcycle		Total	
Camera	Monitoring Period	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%

Road Safety

- After' collision data is only available up to 7th June 2026, but a total of 12 collisions (2 in the dark) have occurred since the trial sites were de-illuminated.
- 16.7% of collisions have occurred during dark periods.
- Whilst only over a short 'after' period, there has been a slight reduction in the percentage of collisions in the dark compared to the 'before' period.

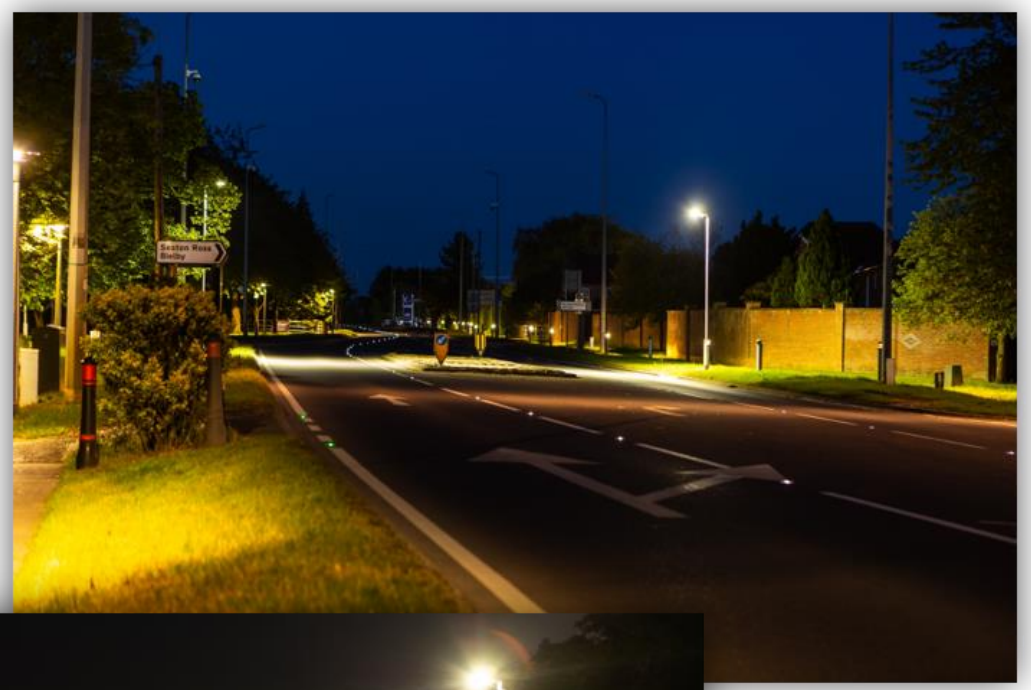
After	Location	Dark	Day	Total	
A164	Riplingham Roundabouts	1	2	3	6
	Riplingham to Swanland		1	1	
	Skidby to Castle Hill		1	1	
	Swanland Roundabout			0	
	Swanland to Humber Bridge Roundabout		1	1	
	Willerby Hill to Willerby			0	
	Willerby to Riplingham			0	
A1079	Raich Carter Way		1	1	6
	Feoffee Common Lane		2	2	
	Hayton		1	1	
	Market Weighton Bypass	1	1	2	
Total		2	10	12	

Before	A164	A1079
Daylight	79.7%	77.4%
Dark	20.3%	22.6%

After	A164	A1079
Daylight	83.3%	83.3%
Dark	16.7%	16.7%

Pedestrian Lighting

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





Cost Savings

- East Riding test sites show £1.6m saving over 40 years, £1.1m saving over first ten

Scenario 2		
Existing Cost Total	Proposed Cost Total	Cost Saving
£291,173	£57,129	80%
£56,611	£19,561	65%
£98,996	£35,011	65%
£421,478	£135,499	68%
£325,365	£64,584	80%
£266,473	£69,386	74%
£230,660	£78,506	66%
£1,690,755	**£459,675**	**73%**

- Wider rollout across East Riding 2,500 columns with estimated £6m saving across revenue and capital

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%

Carbon Savings

- Decision support tool finalised and working
- East Riding Sites saved 160 tons CO2 over the next ten years
- Exploring engineering options to take learning from test sites to improve carbon savings even further
- 810 proposed 10mtr columns to remove in East Riding will save 400 tons C02 over next ten years



Success



Decarbinising Transport Awards 2026
Best Project
Best use of Digital Technologies



Highways Awards
Environmental Sustainability Award 2025



DFT Special Recognition Award Net Zero Project of the Year 2025



HEA Project of the Year 2025



ADEPT Presidents Awards 2026
Digital Innovation
Special Recognition – Karl Rourke

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Summary

- Project team predominantly local authority members from across the UK
- Successful delivery of LL2 project on limited budget showing positive returns
- Scalable project available to all local authorities to show immediate savings
- Understanding of positive communications messaging and timing
- Maintained road safety
- Reduced carbon and cost
- A new option rather than business as usual
- Sector change