Liverpool City Council: Delivering Innovation

Learning from Live Labs 2

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Focus of technical session

- Defining innovation in a highway's context
- Types of innovation
- Our Practical approach
- Governance and Leadership
- Partnership and Collaboration
- Embedding innovation – beyond a pilot?
- Key Take Aways
- Demonstration Video

Defining Innovation

Not just technology

Can Include:

- New materials (e.g. low-carbon asphalt)
- New processes (digital asset management)
- New behaviours (cross-team collaboration)
- New decision-making (carbon-led planning)

KEY MESSAGE

Innovation is as much cultural as it is technical

26 INNOVATIONS

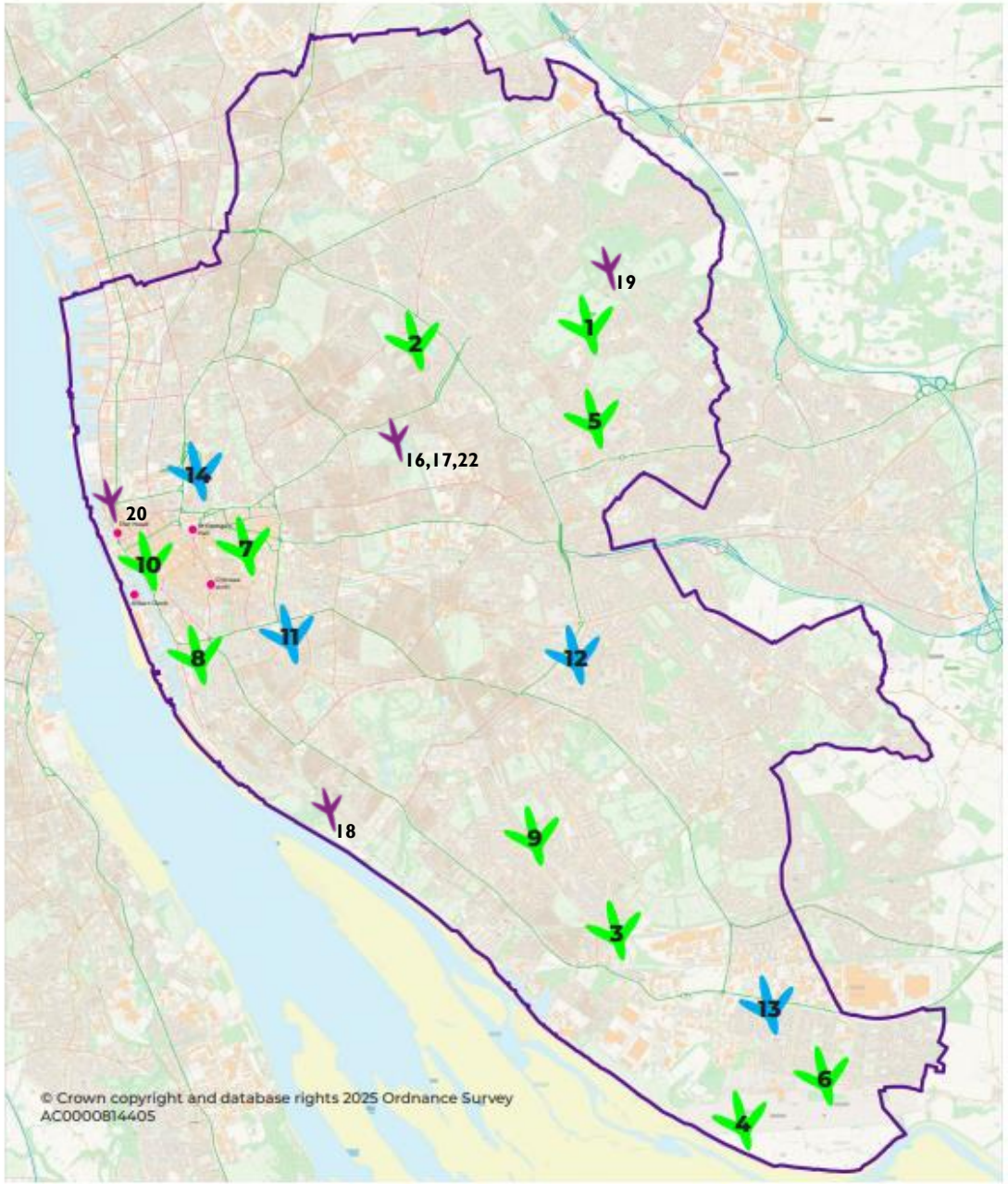


Department for Transport

ADEPT LIVELABS2 Decarbonising Local Roads

Year 3

15. Infracare (City Wide)
16. HanPhalt (LJMU)
17. Ultiglow (Newsham)
18. Urban Kerb (Otterspool)
19. Road Tech (Everton)
20. Circular 11 (Irish Centre)
21. Arcadis (Flowell)
22. Rosehill Eco Drainage
> Castletown
> Newsham
23. Omniflow
> Campbell Square
> Otterspool
24. In-situ Recycling (Old Swan)
25. Mube (Campbell Sq.)
26. HALO RubberPave (Garston)



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LIVERPOOL LIVE LABS

Liverpool City Council

Live Labs Demonstration Locations

Live Lab Schemes

1. **Luminokrom -** Everton Park: Glow-in-the-dark road markings improve visibility and safety without electricity, reducing emissions.
2. **Cold Applied MMA –** Pinehurst Avenue: Fast-curing road lining reduces carbon footprint by 89% compared to traditional materials.
3. **Flowell** - Booker Avenue & Belvedere Road: Interactive light-emitting road markings to enhance pedestrian and driver awareness.
4. **Instragrid Generator -** Alderfield Drive: Portable battery-powered generator replaces diesel/petrol alternatives.
5. **Ultifoam/Ultipave & Milepave** - Princess Drive: High-recycled-content asphalt designed for concrete roads to prevent cracking and water ingress.
6. **Rubberpave HALO -** Alderwood Avenue: Warm-mix asphalt with recycled rubber reduces carbon emissions by 70 tonnes.
7. **Wattway** - Leeds Street: Solar-powered cycle lane generates renewable energy.
8. **Kiacrete** - Upper Pitt Street: Permeable concrete allows water drainage, reducing surface flooding on cycle paths.
9. **Evotherm** - Millersdale: Warm-mix asphalt lowers CO_2 emissions by 30% compared to conventional resurfacing.
10. **Public Art** - School Lane : Public artwork integrating innovative road materials.

Other Locations of Interest:

11. **Halobio Ultifastpave** - Blackburne Place: Single-layer asphalt with 21% recycled material cuts carbon emissions by 48%.
12. **Kraft Lignin** - Glenville Close: Bio-based bitumen alternative in road surfacing.
13. **MilePave** - Eastern Avenue: High-recycled-content asphalt extends road life.
14. **Liverpool John Moores University**

Liverpool City Council · COLAS WE OPEN THE WAY · Liverpool John Moores University · Pell Frischmann Excellence through innovation · proving · Bird & Bird · Aberdeen City Council · GAP Hire Solutions · Newcastle City Council · Huyton Asphalt · Dowhigh · Tarmac A CRH Company

Our Practical Approach

Created a practical delivery model/ repeatable framework

- Identify challenge/problem
- Engage partners
- Trial in real-world conditions
- Measure outcomes (especially carbon)
- Iterate and refine

KEY MESSAGE

"Test, learn, adapt" rather than "design once, deliver forever"

Governance & Leadership

- Senior sponsorship is critical
- Clear decision-making routes
- Risk appetite defined early
- Alignment with corporate priorities (Net Zero, asset management)

KEY MESSAGE

Without leadership backing, innovation stalls

Partnership

Benefits:

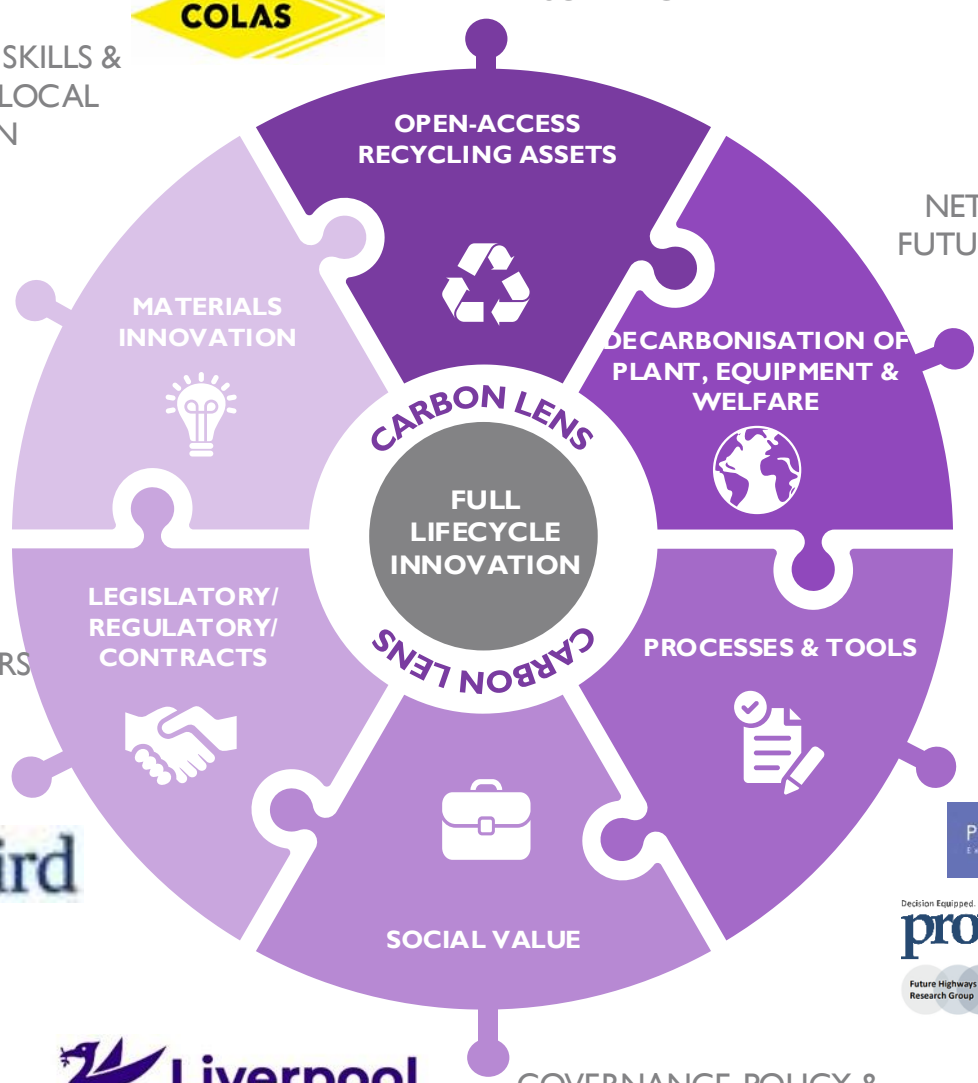
- Access to expertise
- Shared risk
- Faster innovation cycles

KEY MESSAGE

Local authorities don’t innovate alone—
they convene ecosystems

Liverpool Live Lab Ecosystem

LIVERPOOL LIVE LABS
DRIVING DECARBONISATION



DECARBONISED CIRCULAR SUPPLY CHAIN

COLAS

NEW MATERIALS, SKILLS & EVIDENCE FOR LOCAL ADOPTION

LIVERPOOL JOHN MOORES UNIVERSITY

Centre of Excellence for Decarbonising Roads

NET ZERO ENABLERS & FUTURE INFRASTRUCTURE

GAP GROUP HIRE SOLUTIONS

CARBON HIERARCHY LENS & OPTIONS CONFIGURATOR FOR SERVICE LEVEL DECISION MAKING

REMOVING KEY BARRIERS TO DELIVERABILITY

Bird & Bird

Pell Frischmann
Excellence through innovation

Decision Equipped. proving

ABERDEEN CITY COUNCIL

Future Highways Research Group

Huyton Asphalt

Dowhigh

TARMAC
A CRH COMPANY

Liverpool City Council

GOVERNANCE, POLICY & PROCUREMENT

Embedding Innovation

- Many innovations “prove” but don’t scale
- Risk of “pilot graveyard”
- Takes momentum and honest conversations to move things forward

KEY MESSAGE

Delivery is the easy—embedding is the real challenge

Framework to consider

People

- Upskilling staff
- Creating innovation forum
- Changing behaviours

Process

- Embedding into standards/specifications
- Updating design guidance
- Integrating into procurement

Systems

- Data capture & performance tracking
- Carbon measurement tools
- Digital integration

Governance

- Making innovation “business as usual”
- Aligning with asset management plans

Key takeaways from Liverpool

- Collaboration is key – working together can strengthen the approach
- Innovation isn't easy – it takes time, effort and planning
- There isn't a one size fits all approach

Demonstration sites – now complete!

