

From Demolition to Deconstruction

Cormac
McLean



Introductions

Cormac
McLean
AMIDE

6 Years of
Experience
(Sort of)



BEng (Hons) Civil &
Railway Engineering

IDE Foundation Degree

Project Engineer

The Sort Of



Lack of industry uptake

London Strong Uptake
Out of London

The Problem

Clear benefits

Reversing mechanisation

Demand outstripping supply

Thematic Analysis

- 5 out of London contractors
- Range of industry sub-sectors
- Range of size
- 10-minute initial phone interview
- 5 Themes established
- Follow-up extended interviews to delve further

Money

- Scrap uplift is too low.
- High extra costs for deconstruction.
- Uncertainty to uplift achieved.
- Damage to sections quickly drops value.
- Damage to the midspan rapidly drops value.

Time

- Many projects are programmed for highly mechanised methods.
- Many developers have borrowed the funds and need returns ASAP.

Risk

- Deconstruction is a higher risk.
- Reintroduces working from height.
- Introduces craneage – High-risk activity often subcontracted.
- All of these risks have been designed out over previous years.

Skill

- “Topman” skill on the decline.
- Demolition is in a labour crisis without increasing the need for highly skilled demolition operatives.
- Many contractors felt they could not source this labour.

Fear

- Contractors are fearful of the change in business model.
- The volatility of price worries contractors.
- Reuse adds another element that contractors must get right to make a profit.

Solutions

- Many contractors enjoy reuse; it's how their businesses started.
- Some estimate their historical reuse rates were as high as 90%.
- Many contractors already reuse; it is just under reported.
- Of the five interviewed, all had reused over 50t of steel last year.

What the Industry Wants

- Trust – more transparency with reuse merchants.
- Training – Help to certify <50 kg/m sections to sell off-site.
- Legislation—Help pressure the government to legislate material harvesting. We will see increased reuse out of London only when the tender field is level.
- Novel Uses – Large section webs for plate, temporary works.
- Reuse structures – Moving sheds, moving bridges, novel architectural use/features.

New Methodology

- Industrial demolition requires new methods.
- A hybrid of machine and craneage.
- Initially only saving primary steel.
- Lifting key sections down whilst removing light sections and sheeting with a machine.
- 1 day demolition becomes a 3 day project – acceptable increase with upper bound of reuse prices.



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Key Points

- Re-use is key.
- Methodology will have to change – Hybrid machine & crane solutions.
- Protection methods required to protect sections during demolition.
- Our corporate decisions have huge climate weight.

If anyone has any questions regarding today's talk or would like to collaborate on any sustainability project please reach out.